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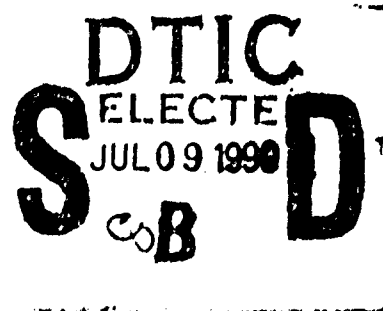
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**THE INSTITUTIONALIZATION OF PRIVATE SECTOR  
STRATEGIC PLANNING METHODS IN A PUBLIC  
SECTOR RESEARCH & DEVELOPMENT  
ORGANIZATION  
THE NAVAL SURFACE WARFARE CENTER CASE  
1982-1989**

BY FRANCIS EDWARD BAKER, JR.  
COMBAT SYSTEMS DEPARTMENT

1 FEBRUARY 1990

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the Center's mission and permit some control in shaping its future destiny. As a result of undertaking strategic planning, the organization has accrued numerous tangible and intangible benefits from having worked through the process for three cycles and from having managers who think more strategically. NSWC has ownership of core skills that has led to a firm-specific advantage (FSA). This FSA endogenous to NSWC is an intangible advantage when competing for and deploying limited public assets.

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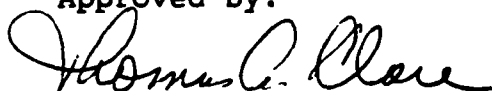
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## FOREWORD

To meet future public sector challenges and opportunities, the Naval Surface Warfare Center (NSWC) launched an effort to develop, implement, and institutionalize a strategic planning process in 1982. A integrative corporate-style strategic planning process based on strategic business units (SBUs) was chosen. This may be the only public sector Department of Defense strategic planning example by a research and development organization using a corporate-style approach which has evolved to this level of sophistication. The process has been institutionalized and matured over three planning cycles. Tangible and intangible benefits have been achieved from these strategic planning efforts which are unique to NSWC.

This report provides a perspective on the development, implementation, and institutionalization of the corporate style strategic planning at NSWC over the 1982 to 1989 period. It contains the Massachusetts Institute of Technology masters thesis as submitted to the Alfred P. Sloan School of Management. A companion report, NSWC MP 89-322, is an executive summary of the planning activities and processes.

Approved by:



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STRATEGIC PLANNING METHODS  
IN A PUBLIC SECTOR RESEARCH & DEVELOPMENT ORGANIZATION  
THE NAVAL SURFACE WARFARE CENTER CASE 1982-1989

by

FRANCIS EDWARD BAKER, JR.

B.S. Electrical Engineering  
Virginia Polytechnic Institute and State University  
(1967)

Submitted to the Sloan School of Management  
in Partial Fulfillment of  
the Requirements of the Degree of  
Master of Science in Management

at the

Massachusetts Institute of Technology

June 1989

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Signature of Author: \_\_\_\_\_

*Francis Edward Baker, Jr.*  
Sloan School of Management  
May 3, 1989

Certified by: \_\_\_\_\_

*Arnoldo C. Hax*  
Arnoldo C. Hax  
Professor of Management & Deputy Dean  
Thesis Supervisor

Accepted by: \_\_\_\_\_

*Alan F. White*  
Alan F. White  
Director of Executive Education

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ABSTRACT

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In 1980, internal and external environmental conditions raised the level of management's attention at NSWC (Naval Surface Warfare Center) to the need for a means which would provide a cohesive focus toward the Center's mission and permit some control in shaping its future destiny. As a result of undertaking strategic planning, the organization has accrued numerous tangible and intangible benefits from having worked through the process for three cycles and from having managers who think more strategically. NSWC has ownership of core skills that has led to a firm-specific advantage (FSA). This FSA endogenous to NSWC is an intangible advantage when competing for and deploying limited public assets.

Thesis Supervisor: Arnoldo C. Hax  
Title: Professor of Management and Deputy Dean

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I am deeply indebted to Professor Arnaldo C. Hax for his enthusiastic support of this thesis topic. His extensive knowledge of strategic planning combined with patient counsel and guidance was key to making this an optimal educational experience. Many Naval Surface Warfare Center employees contributed through extensive interviews. Though the explicit content of each interview is handled as confidential, I have sought to reflect and accurately portray these discussions in this thesis work. These interviews were critical for adding the human experience perspective to strategic planning institutionalization at NSWC. This could not have been obtained from written documentation or textbooks. To each of these individuals I extend my gratitude and personal thanks.

I extend special thanks to Mr. Dean Snyder, of the NSWC Center Planning Group, and Dr. James R. Pollard, of the Electronic Systems Department, who provided unique insights into NSWC's strategic planning approach during several discussions. Dr. Thomas Allen of the M.I.T. Sloan School of Management and Mr. Marshall J. Tino of NSWC provided valuable assistance and advice as thesis readers.

I want to thank the Senior Executives serving on the NSWC Board of Directors and in the Office of the Director of Navy Laboratories. Their personal support made possible my attending the M.I.T. Sloan Fellows Program which provided the opportunity to bring this thesis to reality.

Finally, I would like to express my deepest gratitude to my wife, Honora, whose support and guidance has been a powerful force throughout the Sloan Fellows Program and this thesis effort.

The analysis, conclusions, and opinions which this thesis represents are the personal views of the author. They do not represent the views of the Department of Defense, Department of the Navy, or any of its civilian or military officials.

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CHAPTER 1  
INTRODUCTION

### 1.1 Purpose

The purpose of this thesis is to describe the development, implementation, and institutionalization of private sector corporate-style strategic planning methods in a public sector federal government Department of Defense research and development organization -- The Naval Surface Warfare Center (NSWC).

### 1.2 Background

By corporate-style strategic planning, I mean the use of a formal integrative strategic planning process whose cornerstone is the segmentation of the organization's activities into strategic business units (SBUs). Careful tests of the institutionalization of corporate-style strategic planning in public sector organizations are few in number.<sup>1</sup> None, other than that described in this thesis, are known to exist in the federal sector. Many federal sector organizations will say they do strategic planning. But because planning can have a wide variety of forms and definitions, an agency's specific definition of strategic planning and its objectives must be carefully considered. An example would be the U.S. Food and Drug Administration's (FDA)

initiation in 1972 of a planning process based upon strategic issues, agency priorities, resource levels and allocation, and communication with headquarters.<sup>2</sup> The FDA's planning experience and results did influence NSWC planners. Examples of this influence include use of the Delphi process and Nominal Group Techniques, the role of the planning staff, and short, workable evaluation criteria.

The institutionalization of strategic planning at the Naval Surface Warfare Center is unique. There are two important factors to consider. First, the federal government's (i.e., the bureaucratic system's) role and mission does not provide an environment or the forcing functions required for corporate-style strategic planning. Second, the commitment continuity over time necessary to create and foster a strategic planning process is difficult in situations of historically short-tenured leaders. Many times in both government and industry employees have observed a burst of enthusiasm for adoption of new business methods or techniques. The new methods involve change. The 'tyrants of tradition' often handle change by the infamous 'answer the mail technique' of no personal commitment just compliance with requests. Or, the change may "wither on the vine" because the individuals responsible change jobs or a new

administration takes charge. This did not happen at the Naval Surface Warfare Center. Yet, in the eight years since the start of strategic planning there have been four Commanding Officers, three Technical Directors, and numerous external Navy leadership and organizational changes directly affecting the Center. The Center's successful completion of three planning periods demonstrates, I believe, management innovation in employing unconventional ways of doing business in the federal government. The uniqueness of the successful start-up and the continuity of this particular strategic planning process will be further exemplified in the discussion below of the differences in the roles and missions of industry and government. This Navy experience, the lessons learned, and the examples provided could have significant and important applications to other public sector organizations. When examining the applicability of NSWC methods to other public sector organizations, there are two important factors to consider:

- a. the research and development function is intensive in highly trained employees or human capital as compared with other public sector organizations; and,
- b. during most of the 1982-1989 period NSWC was constrained by a 'zero-sum game,' non-negotiable, self-imposed maximum size of 5000 employees as compared with agencies who could hire and expand their work force.

This thesis provides a snapshot of eight years of strategic planning activities and events at NSWC. No attempt is made to provide a detailed description of individual events and activities. This thesis does attempt to capture the magnitude of the tasks and the complexity of the approach to institutionalizing strategic planning at NSWC. It does not present a textbook example of the implementation of strategic planning nor does it attempt to evaluate NSWC's concept of strategic planning from a "right or wrong" perspective. This is because there are a variety of private sector approaches <sup>3,4</sup> to strategic planning not all of which are equally applicable to government organizations and their particular environmental conditions. For executives or managers trained as scientists and engineers, the acceptance of no right or wrong way to perform strategic planning may be difficult. As we shall see, the benefits and successes of strategic planning are difficult to quantify. Seasoned strategic planners often state that "the most important contribution of the planning is the process itself,"<sup>5</sup> and it's "worthwhile only if it helps key decision makers think and act strategically."<sup>6</sup>

NSWC personnel were pioneers plowing new ground by applying corporate-style strategic planning in a federal sector research & development laboratory. Their keen

understanding and knowledge of how fast to proceed within the organization enabled them to blend, innovatively, elements of more than one private sector approach.

The disciplined methodology for the development of a corporate strategic plan developed by Hax and Majluf<sup>3</sup> provides a broad general framework for strategic planning. It will be used as a vehicle for discussion in this thesis because:

- (1) it presents an integrative approach which is necessary to obtaining commitment throughout the organization and to institutionalizing a process;
- (2) the methodology was presented in a 1982 seminar to NSWC executives and managers by Professor Hax to introduce the concepts of strategic planning; and,
- (3) literature exists which discusses the methodology in relation to another Navy R&D Center and Department of Defense (DOD) planning.

Three research methods were used to gather information for this thesis. First, the literature on strategic planning was reviewed and studied. Second, NSWC strategic planning process and implementation memoranda and documents were reviewed covering the period 1982 to 1989. Finally and most important, a series of detailed interviews were conducted with NSWC executives, department

heads, division heads, and program managers. This group of ten interviews is too small to make sweeping generalizations, but it provides executive and managerial perspectives on an institutionalization process from an organization recognized as having done a good strategic planning job. The research highlighted, for me, a flaw in relying heavily on the strategic planning literature when undertaking such an effort. I believe that writers find it difficult to place sufficient emphasis on the practical institutionalization process.

History shows that during this century strategic plans have been developed and implemented by many U. S. corporations. However, only part of these plans have worked successfully. In 1984, GM Chairman, Roger B. Smith, was quoted as having a master plan to integrate strategic planning "into our daily lives...true integration with the operating organization."<sup>7</sup> A major educational job was undertaken "to get [operating managers], who are used to thinking in terms of nuts and bolts, to think in strategic terms."<sup>7</sup> As a result of detailed interviews, I believe factors key to educating for thinking and planning strategically are:

- the institutionalization of a strategic planning process; and,

- commitment throughout the organization to its successful implementation.

This is also what Roger B. Smith was addressing.

The strategic planning literature contains many papers, books, and theses on how to do strategic planning with an emphasis on the procedural and mechanistic point of view. Few published articles provide specific and detailed empirical institutionalization results. Often strategic planning is presented in the framework of models, schematic flow charts, and planning work sheets of various degrees of complexity. These efforts are important pieces of work for:

- the continued development and improvement of strategic planning theory and methods; and,
- the application of the theory in the implementation of strategic management in practice.

The would-be-planner or corporate executive might obtain the impression from the potpourri of private sector approaches described in the literature that this tool called "strategic planning" can be mechanistically implemented simply because corporate management desires a

strategic plan. Hax and Majluf stress that planning is not a mechanistic activity. However, the opportunity to provide for some degree of uniformity throughout an organization can be obtained from a more structured process such as the Hax and Majluf methodology.

I believe that a basic weakness or shortcoming of the strategic planning literature is the lack of emphasis on the strong need to institutionalize the process and to obtain commitment. This may be an indication of (a) the lack of access to actual in-depth strategic planning case studies or (b) our inability to deal with institutionalization in an effective way within the limitations of journal articles and textbooks. A corporate strategic planning effort generates only a plan on paper unless the organization can and does implement it to achieve the future strategic vision of success. Organizationally two things are required for successful process implementation: (1) a planning process understood by and belonging to all the people in the organization, and (2) a planning process to which the people throughout the organization's hierarchy are committed. The individual employee's commitment is key to using strategic planning to make an organization more effective and efficient. A missing element in the literature is the focus on institutionalization of the strategic planning

process and methodologies for the organization. In an organization that has not done strategic planning, institutionalization can mean basic cultural change, organization structure change, and operational change. Change can be extremely difficult to implement in organizations. Often the implementation of change requires significantly more time than one would estimate. The institutionalization of corporate-style strategic planning processes for the first time will require at least three years before one starts to see progress and more likely five years before one obtains significant results.

Traditionally, United States government organizations and, in particular, Department of Defense (DOD) organizations have not implemented the "strategic management and strategic planning" concepts of authors such as Michael Porter,<sup>8</sup> Arnolddo Hax and Nicolas Majluf,<sup>3</sup> or John M. Bryson.<sup>1</sup>

However, it would be a serious misconception for readers to believe that the Defense Department does not develop strategies and strategic plans. DOD has evolved, over decades, strategic, long-range, and tactical level planning systems with time frames of 1, 3, 5, 10, and 20 years or more as appropriate.<sup>9</sup> Two well-known examples

are the Navy's Maritime Strategy<sup>10</sup> spearheaded by former Navy Secretary, John Lehman, and the Planning, Programming, and Budgeting System (PPBS) instituted by former Secretary of Defense, Robert McNamara.

In order to understand further the constraints and limitations involved in initiating private sector corporate-style strategic planning methods in a U.S. government organization, Chapters 1 and 2 examine (1) the differences between government and private sector objectives and missions, (2) the fundamentals of strategic planning terminology, (3) the historical stages of strategic planning, (4) the significance of the strategic business unit (SBU), and (5) the benefits of strategic planning. Chapter 3 discusses the Hax and Majluf methodology. The Naval Surface Warfare Center is introduced in Chapter 4. Chapters 5, 6, 7, and 8 describe the strategic planning process evolution at NSWC. Chapter 9 summarizes the observations and conclusions.

### 1.3 The Role & Mission of Government and the Private Sector

The role and mission of industrial businesses and

government organizations are key drivers or forcing functions in the process of motivating executives to develop strategies and strategic plans, implement the strategies, measure performance and evaluate results of the strategic plan's implementation, and manage strategically. Clearly, "the overall objective of a business is to earn a satisfactory return on funds invested in it consistent with maintaining a sound financial picture."<sup>11</sup> The responsible executives have a duty to stockholders and an obligation to creditors, employees, customers, suppliers, and society. One criterion for success is the measurement of the value of the business. Thus, a forcing function -- measured value of the business -- exists which can provide motivation for an industrial organization to plan and manage strategically in order to be more effective and efficient in increasing the value of the business.

The mission of the Department of Defense is:<sup>12</sup>

- to support and defend the Constitution of the United States against all enemies foreign and domestic;
- to ensure, by timely and effective military action, the security of the United States, its possessions, and areas vital to its interests;
- to uphold and advance the national policies and interests of the United States;

- to safeguard the internal security of the United States.

The sophisticated defense establishment's strategy and planning process must ensure that the ends, means, strategy, and risks are consistent with national interests and objectives. The Defense Department's strategies and strategic planning must synthesize these elements with national interests, national objectives, military strategy, required-current-projected forces, threats, budget constraints, and acceptable risk.<sup>9</sup>

The Department of Defense's formal resource allocation process is the planning, programming, and budgeting system (PPBS) established in the early 1960s by Secretary of Defense, Robert McNamara, and Assistant Secretary (Comptroller), Charles Hitch. Brown describes this complex DOD process:

"First, the Secretary of Defense and the JCS decide on a military strategy. The PPBS determines the optimum force structure to carry out the chosen military strategy or plan. It devises a five-year program to produce and maintain those forces in the most cost effective way, revising the program

annually and rolling it forward one more year. Then it budgets increments of the program."<sup>13</sup>

Notice that a key driver is the optimum force structure to carry out the chosen military strategy. The chosen strategy in most cases is based on the national security strategy<sup>14</sup> of the current administration and on funding provided by the Congress.

The many stakeholders in the process start becoming visible--the Congress, the White House, the military services, taxpayers, employees, the military-industrial contractors, the media, and others. The individual views of these constituencies must be taken into account by the DOD.

A hierarchical decision process orientated toward a common goal of increased value can be executed in industry without the pulling and hauling of so many conflicting constituencies. The government process is one based much more upon intense discussion, explanation, and persuasion. Brown in describing the management of the Defense Department said:

"Most important, the Department of Defense differs from business because it is part of the government.

There is no single number that provides a bottom-line measure of how well the DOD or any other government agency is being managed. And there is a whole set of conflicting and often legitimate forces whose pull is neither toward improving efficiency nor toward increased combat capability."<sup>15</sup>

For a review of strategic management in the DOD using the framework of the Hax and Majluf strategic planning methodology see McNulty's<sup>16</sup> (1985) discussion.

Flowing down from the DOD mission, the Navy's overall mission is to "be prepared to conduct prompt and sustained combat operations at sea in support of national interests -- to assure maritime superiority for the U.S."<sup>17</sup> The Navy performs the four functions of sea control, strategic deterrence, power projection, and strategic lift in the five dimensions of ocean surface, subsurface, land, air, and space. This is significantly different from the business world's mission. For example, the mission statement of General Motors Venezuela reads: "The mission of GMV is the assembly and wholesale marketing of automotive vehicles, and wholesale marketing of the associated replacement parts."<sup>18</sup> On an annual basis it is easier to evaluate quantitatively or measure assembled and marketed vehicles and parts than to measure quantitatively

the state of being prepared to conduct prompt and sustained combat operations at sea.

Going the last step, the seven Navy Research & Development Centers are a Navy asset which (1) support multiple warfare areas, (2) support combat systems that cross military platforms, and (3) serve as the principal source of in-house independent scientific and engineering talent. They provide technical support to DON/DOD program managers in all phases -- technology, concept development, advanced development, pre-program verification and validation, production test and evaluation, and Fleet support. This is known as "cradle-to-grave" or full spectrum support. The mission statement for the Naval Surface Warfare Center states that the Center is "to be the principal Navy RDT&E Center for surface ship weapons systems, ordnance, mines, and strategic systems support."<sup>19</sup>

The profit orientated business organization can summarize its revenues and match them to related cost or expenses with a resultant determination of profit. Stockholders and executives are able to gauge performance of an entity because elements of the entity are established as profit centers thereby providing a good basis for measuring organizational and executive

performance. On the other hand, government executives enjoy no such direct measurement of contribution to profit or equivalent proof of their decision-making ability or managerial effectiveness. The business executive in charge has (1) the authority and control to develop a corporate vision, a strategy to achieve the vision, make the decisions that determine the business' shape in the future, and implement the strategies, and (2) flexible control over human resources, motivational rewards, and programs undertaken or maintained. All defense organizations' strategies and all government decisions are subject to intense debate by advocates with multiple and often conflicting objectives. Rarely are the merits of the military service's investment or program itself sufficiently convincing to warrant consensus by constituents. Often the correct choice is not clear because of very complex multiple scenarios, multiple service user situations, or uncontrollable political constraints. For example, Navy R&D Center managers may desire to change strategic direction for the good of the Navy but find that externally imposed constraints prevent vertical program cuts or divestitures, reductions in work force (RIFs) for skill-mix restructuring, or filling critical jobs when personnel leave.

The world of the U.S. government with its typical bureaucratic behavior is very different from the world in which industry<sup>20-22</sup> operates. Historically, the tenure of government executives and senior officials in one job has been short (less than five years). This short-time-horizon phenomena creates considerable barriers to long-range organizational issues of substance such as the institutionalization of strategic planning processes for optimal decision making. For example, over the last five years NSWC department level executives were typically moved into new positions every two to three years. Also, over the last fifteen years there have been seven Directors of Navy Laboratories.

"Bureaucracies tend to factor problems, avoid uncertainty, and look for satisfactory (vs. optimal) solutions while carrying out standard operating procedures."<sup>23</sup> Our bureaucratic system has its own rules. Hans TenDam has said that the basics of bureaucratic politics' rules, in order, are "autonomy, budget, influence, and prestige."<sup>24</sup> Would these basics provide the environment or driving forces for corporate-style strategic planning in government? No, they would not.

The U.S. federal system from the highest level to the most subordinate level of organization does not by its

nature provide the key driving forces nor foster the implementation of private sector corporate-style strategic planning necessary for effective and efficient strategic management.

In summary, it is harder in the public sector, and particularly in the Defense Department, than it is in the private sector to develop and implement corporate-style strategic planning. One primary difference is that industry executives have (1) more personal control over basic strategy and organizational objectives, (2) company and individual bottom-line performance measures, and (3) clear implementation and execution authority.

The classical analysis of government decision-making dynamics is summed up in **ESSENCE OF DECISION** where Graham Allison presents the "Governmental Politics Model" which describes government as a conglomeration of semi-feudal and loosely allied organizations with a life of their own. He writes:

"The leaders who sit on top of organizations are not a monolithic group. Rather, each individual in this group is, in his own right, a player in a central, competitive game. The name of the game is politics...players...make government decisions not

by single rational choice but by the pulling and hauling that is politics."25

This thesis will show what compelled NSWC leaders under these circumstances to decide that a strategic planning process was necessary. They demonstrated the organizational leadership required in the federal sector to identify and implement the appropriate strategy to make NSWC a more effective Navy organization.

CHAPTER 2

STRATEGIC PLANNING FUNDAMENTALS

## 2.1 Fundamental Strategic Planning Terminology

Many terms related to strategy and strategic management are used in this paper and many more exist in the literature. The meaning of these words is not universal and is often based on narrow perceptions and the experience of individuals. Therefore, it is most appropriate to establish a basis of discussion for the concept of strategy, corporate strategy, strategic planning, and strategic management. Some organizations appear to measure their performance or progress in strategic planning processes and strategic management based upon internalized and perhaps fuzzy ideas of what the terms actually mean. Defining the fundamental terminology in simple statements provides a framework for this thesis. The linkages of planning elements, like the strategic business unit (SBU), to strategy development and strategy implementation become more understandable. These words, though spoken everyday, prove to be central concepts that are difficult to grasp in the routine operation of the work place. Just try walking around your organization asking the question, "What is our corporate vision and strategy?" Andrews states:<sup>26</sup> "At its simplest, a **STRATEGY** can be a very specific plan of action directed at a specific result within a specified period of time."

This definition appears straightforward and simple. However, the elusiveness of Andrews' concept is apparent when Hax and Majluf identify and characterize the critical dimensions of the concept of strategy:<sup>27</sup>

1. strategy can be a means of establishing the organizational purpose, in terms of its long-term objectives, action programs, and resource allocation priorities;
2. strategy can be the definition of the competitive domain of the firm;
3. strategy can be a coherent, unifying, and integrative blueprint of the organization as a whole;
4. strategy can be a response to external opportunities and threats, and internal strengths and weaknesses;
5. strategy can be a central vehicle for achieving competitive advantage;
6. strategy can be a motivating force for the stakeholders.

STRATEGY, they conclude,<sup>28</sup>

- "1. is a coherent, unifying, and integrative pattern of decisions;
2. determines and reveals the organizational purpose in terms of long-term objectives, action programs, and resource allocation priorities;
3. selects the businesses the organization is in or is to be in;
4. defines the kind of economic and human organization the company is or intends to be;

5. attempts to achieve a long-term sustainable advantage in each of its businesses, by responding properly to the opportunities and threats in the firm's environment, and the strengths and weaknesses of the organization;
6. engages all the hierarchical levels of the firm (corporate, business, functional); and
7. defines the nature of the economic and non-economic contributions it intends to make to its stakeholders."

We will see that this multidimensional definition of strategy actually encompasses elements of the strategic planning methodology because strategy formulation and strategic planning processes cannot be separated. This view is similar to the relationship between strategy and tactics in war. One hundred and fifty-four years ago the classic theoretical work on the theory of war, *ON WAR*, by Carl Von Clausewitz, presented strategy as "the study of the employment of battles for the object of the war" and tactics as "the employment of fighting forces in battle."<sup>29</sup>

**STRATEGIC PLANNING** is a methodology or apparatus that includes tools for defining specific actions, integrates organizational levels with tasks, formulates key questions and analyzes options and tradeoffs, focuses choices, and defines performance measures and evaluation techniques and results. The direction of organizations undertaking

strategic planning should be from business and corporate strategic planning development to integration with strategic management. A crucial ingredient for success is **Strategic Leadership**. This includes (a) determining and monitoring the adequacy of the organization's continuing purpose and vision, (b) defining a set of future vectors with the management team, and (c) leading the organization to achieve the vision. Andrews describes the chief executive and victory-seeking organizational leader as the **Architect of Purpose**.

Andrews reminds us that strategic management -- formerly called business policy -- provided for the emergence of the idea of corporate strategy over the last twenty years. Recognition is developing, he says, for STRATEGIC MANAGEMENT<sup>30</sup> which he defines as "the administration of operations dominated by purpose and by consideration of future opportunity, with explicit attention given to the need to clarify or change strategy as results suggest and to enter the future on a predetermined course." Senior management responsibilities include strategic management which consists of making crucial decisions affecting the total enterprise, determining the organization's shape in the future, and producing the desired results. Strategic management from its inception must be part of the process of

institutionalizing strategic planning in the organization. Based on the above definition, strategic management cannot start after a plan has been committed to paper. Rather, strategic management begins before a plan has been committed to paper, as was the case at NSW in 1982. Elements associated with strategic management such as resource allocation and management control systems are easier to relate to strategic management after having completed a significant portion of a strategic planning cycle. The effectiveness of accomplishing the objective of strategic management increases as the institutionalization of a strategic planning process progresses.

Authors Frederick W. Gluck,<sup>31</sup> of McKinsey & Company, and Edward H. Bowman,<sup>32</sup> of the Wharton School, have further segmented the term strategy by identifying four levels: enterprise strategy, corporate strategy, business strategy, and functional strategy. It is important to understand the hierarchy of strategy types or levels for two reasons. First, this is necessary in order to understand the development and importance of the strategic business unit -- the cornerstone of private sector strategic planning. Second, the Hax and Majluf corporate strategic planning process used in this thesis is firmly rooted in basics starting with three conceptual

strategy hierarchy levels -- corporate, business, and functional. It is important to understand how these levels are defined and interpreted in order to make a translation into the public sector organization.

In analyzing the R&D Center and its operations for strategic planning, simplified assumptions were made by NSWC in order to identify and use these three levels of the Hax and Majluf approach. Actually, when developing an R&D Center strategic planning process, ingenuity is required to make the process work in the federal government because it does not offer an exact analogy to the private sector.

**ENTERPRISE STRATEGY** -- "deals with the issues of fitting the corporation (multiple industries) into its complete external (and global) environment including legal, political, and social...it involves the interaction with a wide variety of groups, some more powerful than others."<sup>33</sup>

**CORPORATE STRATEGY** -- "involves the issues of managing various interactions and reinforcements among the portfolio of (somewhat) separate businesses....issues include resource allocation, coordination and economies of

scope, synergy, transfer prices, effectiveness measurements, capital flows...technology, international acquisition and divestment."<sup>34</sup>

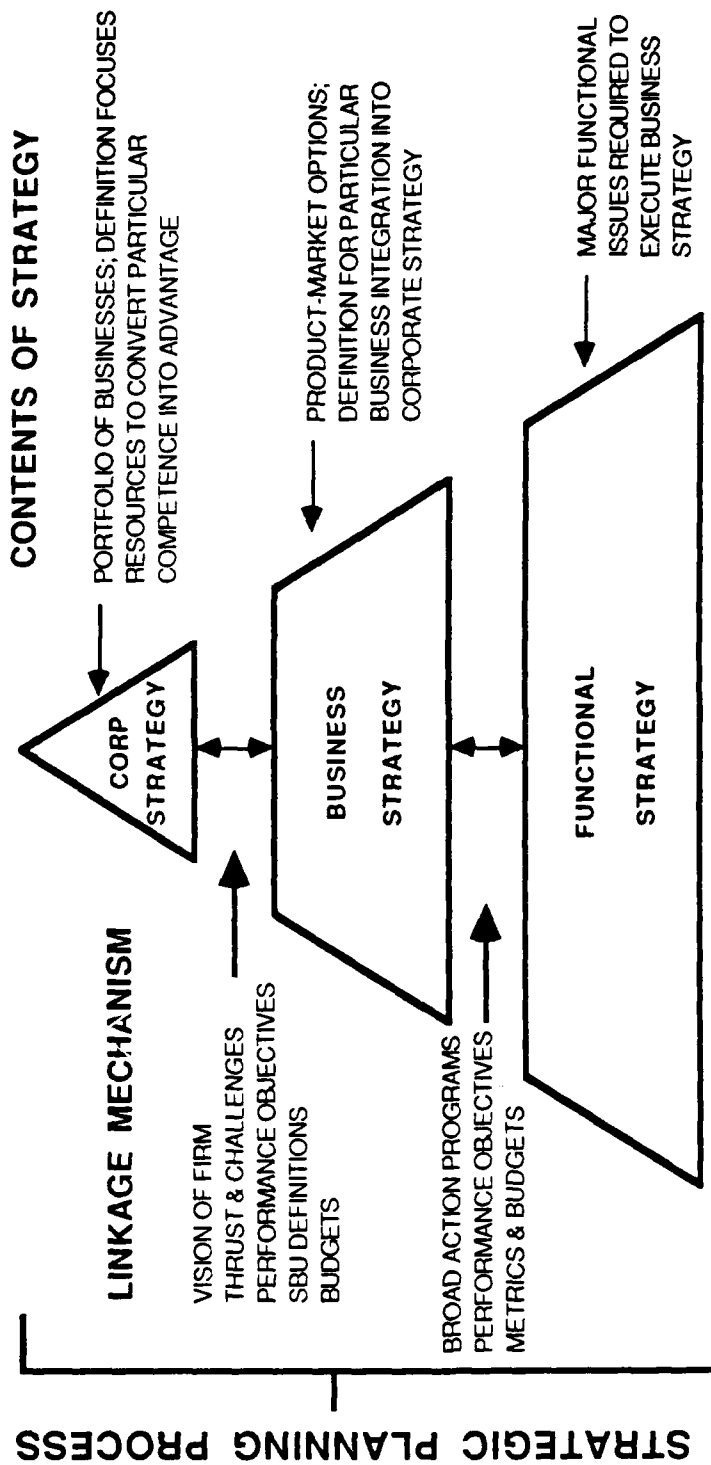
Andrews sees corporate strategy as a "defining of the businesses in which a company will compete, preferably in a way that focuses resources to convert distinctive competence into competitive advantage."<sup>35</sup> We will see in the NSW case that strategy does define the businesses in which NSW desires to maintain distinctive competencies.

**BUSINESS STRATEGY** -- "treats a particular business and the key actors in its product market -- customers, competitors, suppliers, potential entrants, and substitutes... also growth direction, generic strategy, competitive advantage, and make or buy decisions."<sup>36</sup>

Andrews maintains that business strategy is less comprehensive. It "defines the choice of product or service and the market of individual businesses within the firm."<sup>37</sup> In this view, business strategy formulation is a matter of defining the product market options at the division or product line organizational level.

**FUNCTIONAL STRATEGY** -- "addresses the major issues in various functions such as marketing, manufacturing, finance, and accounting, and human resources".<sup>38</sup>

Functional strategy, Andrews would add, is a "combination of purpose and policies that guides the conduct of the function."<sup>39</sup> Federal agencies have "businesses" which can be defined without great difficulty. However, in most cases they do not have functions which map one-for-one to the industrial functions of, for example, marketing and manufacturing. Figure 1 summarizes the strategy hierarchy concept for the case where the corporation is the apex of the hierarchy. The Hax and Majluf strategic planning methodology provides a bridging and integration of the types or levels of strategy. The methodology will illustrate the role each strategy level plays in the process of developing a corporate strategic plan and in obtaining the critical personnel buy-in required for process institutionalization.



**FIGURE 1. STRATEGY HIERARCHY AND STRATEGIC PLANNING PROCESS**

## 2.2 Planning's Historical Evolution

An interpretation of the stages of planning is important because it shows: (a) the evolutionary nature of strategic planning thinking, (b) how the strategic business unit (SBU) became a cornerstone for strategic planning, and (c) the relationship of strategic management to the planning stages.

An evolutionary development of strategic planning thinking parallels, I believe, the actual development of strategy and the institutionalization of strategic planning in business and government organizations. Having this perspective will help in understanding NSWC's state of planning prior to its introducing strategic planning and the events of the three planning cycles. Gluck, Kauffman, and Walleck<sup>31</sup> in 1980 developed four phases in the evolution of formal strategic planning. However, we will follow closely the presentation given by Hax and Majluf<sup>3</sup> because they carry evolution from the annual budgeting and financial control stage to strategic management in the last stage. The five major stages

are: 40

#### STAGE 1 -- BUDGETING AND FINANCIAL CONTROL

- data used for reports on functional performance compared with budgetary targets on annual basis
- budgeting as projections of revenue cost and capital needs normally covering a one year period
- financial control as a structured process aimed at the efficient and effective use of financial resources

#### STAGE 2 -- LONG-RANGE PLANNING

- organization-wide efforts to define objectives, goals, programs, and budgets over many years (introduced in the 1950s)
- projections of environmental trends and establishment of challenging objectives to guide the firm's operation and executive actions

#### STAGE 3 -- BUSINESS STRATEGIC PLANNING

- segmentation of the international, diversified, multi-technological corporation into autonomous strategic business units (SBUs) (concept emerged in 1970)
- centered on development of business strategy and supporting strategic programs
- business mission, external environmental evaluation, and internal scrutiny and prioritization drive process with business strategy as end product
- SBU becomes genesis and cornerstone of strategic planning process

#### **STAGE 4 -- CORPORATE STRATEGIC PLANNING**

- powerful competitive adversaries create need to rethink decentralization and autonomous business unit concepts relative to benefits derived from shared experiences and economies of scale as a value-added chain
- disciplined and well-defined organizational effort neither top down nor bottoms up aimed at complete specification of corporate strategy to focus choices and action programs for implementation at all levels
- integration of organizational levels with tasks required and process for achieving cohesive results

#### **STAGE 5 -- STRATEGIC MANAGEMENT**

- development of corporate values, managerial capabilities, organizational responsibilities, and administration systems linking strategic and operational decision making at all hierarchy levels and across all business and functional lines of authority in a firm

Figure 2 summarizes these planning stages.

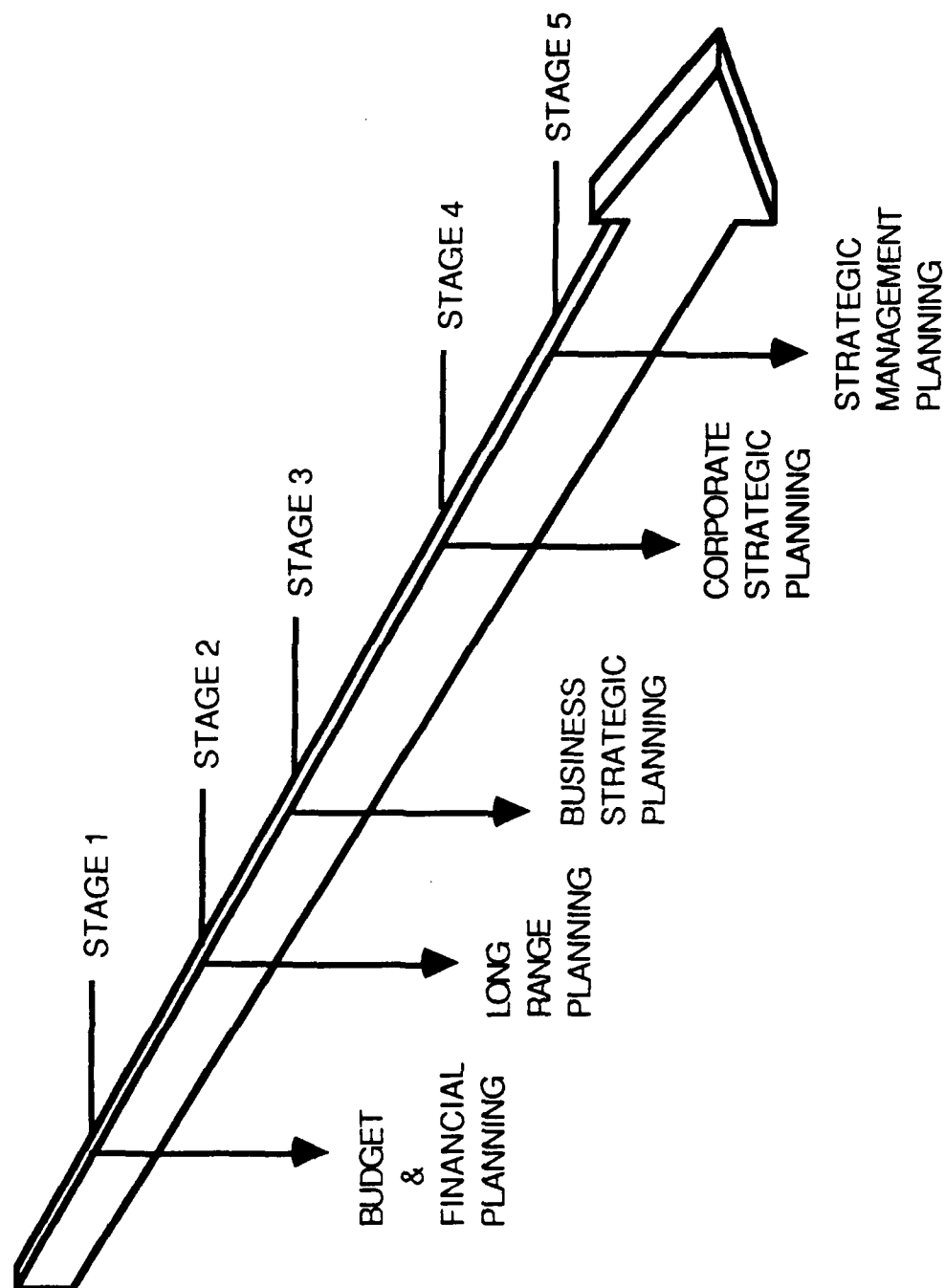


FIGURE 2. HISTORICAL STAGES OF PLANNING EVOLUTION

We shall see in the NSWC case that the decision was made to develop a strategic planning process following a modified long-range planning process. The Center's long-range planning process basically assumed a continuation of the present and mapped out the future by projection. The Center leaped the business strategic planning stage although it borrowed some elements like SBUs and sectors. This was the infancy period of the concept of strategic management at NSWC. The strategic planning process evolved to one having a vision of future success with options developed to achieve that success based on various scenarios.

Bryson<sup>41</sup> nicely summarizes the important differences between strategic planning and long-range planning. They are presented in Table 1.

**TABLE 1. STRATEGIC PLANNING & LONG RANGE PLANNING DIFFERENCES**  
(SOURCE: BRYSON 1988, PP. 7-8)

DIFFERENCES BETWEEN STRATEGIC PLANNING AND LONG RANGE PLANNING	
STRATEGIC	LONG RANGE
<ul style="list-style-type: none"> <li>- RELIES MORE ON IDENTIFYING &amp; RESOLVING ISSUES</li> <li>- EMPHASIZES ASSESSMENT OF THE ENVIRONMENT OUTSIDE &amp; INSIDE THE ORGANIZATION; EXPECTS NEW TRENDS, DISCONTINUITIES, &amp; A VARIETY OF SURPRISES; MORE LIKELY TO EMBODY QUALITATIVE SHIFTS IN DIRECTION &amp; INCLUDE BROADER RANGE OF CONTINGENCY PLANS</li> <li>- MORE LIKELY TO HAVE A VISION OF SUCCESS &amp; ASK HOW IT MIGHT BE OBTAINED; OFTEN REPRESENTS QUALITATIVE SHIFT IN DIRECTION</li> <li>- MORE ACTION ORIENTATED, RANGE OF POSSIBLE FUTURES; FOCUS ON IMPLICATION OF PRESENT DECISIONS &amp; ACTIONS IN THE RANGE; KNOW DIFFERENT STRATEGIES MAY BE NEEDED TO ACHIEVE VISION</li> </ul>	<ul style="list-style-type: none"> <li>- FOCUS ON SPECIFYING GOALS &amp; OBJECTIVES; TRANSLATING THEM INTO CURRENT BUDGETS &amp; WORK PROGRAMS</li> <li>- ASSUMES CURRENT TRENDS WILL CONTINUE INTO THE FUTURE</li> <li>- TYPICALLY LINEAR EXTRAPOLATIONS OF PRESENT EMBODYING GOAL STATEMENTS OF EXISTING TREND PROJECTIONS</li> <li>- TEND TO ASSUME A MOST LIKELY FUTURE; WORK BACKWARD TO MAP DECISIONS &amp; ACTIONS SEQUENCE TO REACH ASSUMED FUTURE; GET LOCKED INTO THE SEQUENCE OF DECISIONS &amp; ACTIONS</li> </ul>

### 2.3 Strategic Business Units -- SBUs

Identifying business segments as strategic business units is said to be the result of a decision by the Chairman of General Electric in 1970 to divide G.E. businesses into a set of autonomous units as a result of a study by McKinsey & Company.<sup>42</sup> At this period in time, business leaders were managing large, complex, and diversified organizations which lacked integration and cohesiveness among their various business areas. They lacked the ability to comprehend and effectively present planning information for the overall organization although leaders had a sense that poor planning and understanding resulted in poor performance of their businesses. The degree of rivalry increased over time among competitors as a period of significant growth and expansion slowed. This resulted in a recognized need to develop a cohesive plan for the corporation as a single integrated entity.

The concept of SBUs was a key innovation. It provided new flexibility to corporations using the associated planning tools. The tools, such as competitive cost dynamics, and matrix and portfolio theory, reduced the volume and complexity of presenting information at the corporate level and of developing views for the future. The SBU provided the means to establish meaningful

priorities and hence the vehicle to reconfigure organizations based on units serving common product and market areas. Ideally, the SBU is an autonomous unit. It should have business areas with external markets for goods and services whose objectives can be established and strategies executed independent of other business areas. Haspeslagh<sup>43</sup> says that the guiding principle should be to "define the SBU to incorporate control over resources that will be the key strategic variables of the future." Hax and Majluf suggest that the criteria for defining an SBU are that:<sup>44</sup>

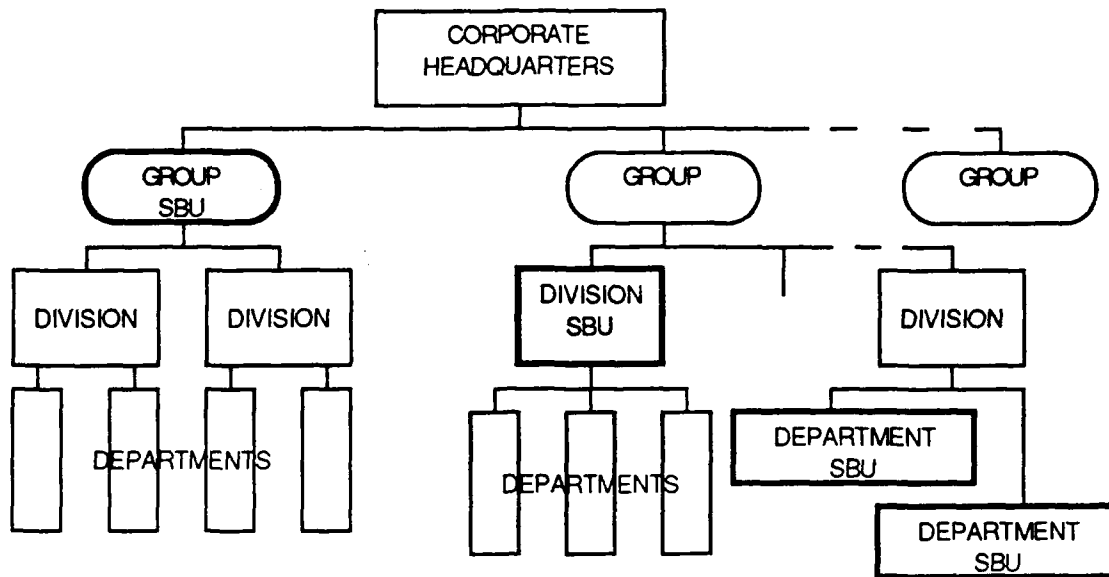
- it serves an external market;
- it has a clear set of external competitors;  
and
- it has control over its own destiny regarding products to offer, how and when to go to market, and where to obtain required supplies, and, its performance is measurable as a profit center.

Creating SBUs gave rise to new organizational considerations.

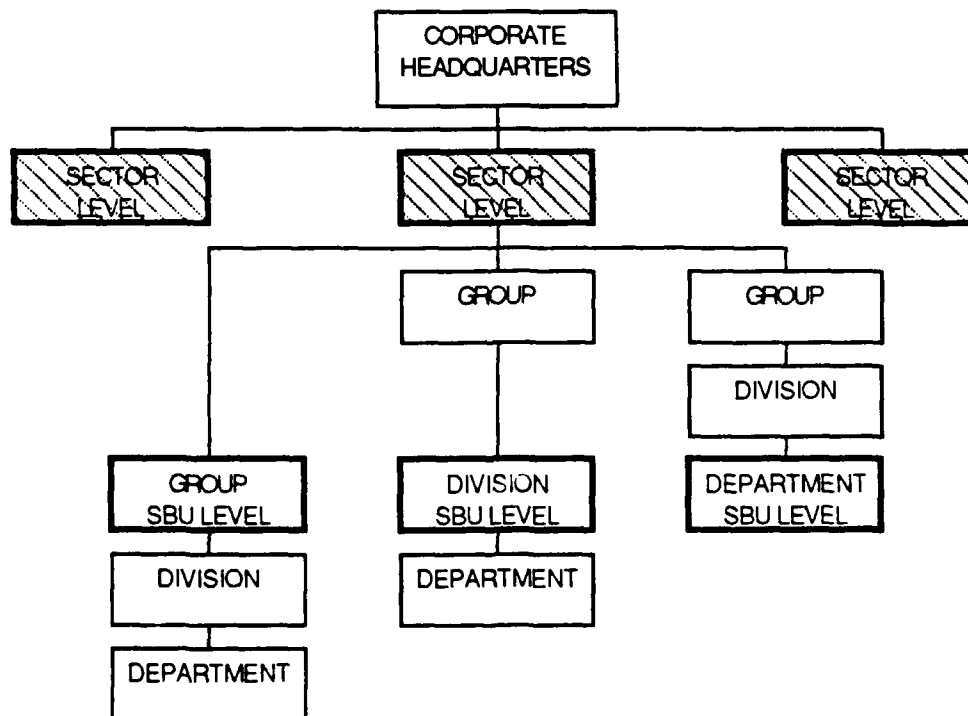
We saw from Chandler's<sup>45</sup> historical account of the period from 1900 to 1960 the rise of an organizational hierarchy of form: corporate level, division level, and functional level. Division levels were individual

business areas; the functional level encompassed activities such as marketing, finance, engineering, manufacturing, research & development, technology, human resources, procurement, distribution, and service. We note from our discussion of the hierarchy of strategic planning types that functional strategy activities incorporate the historical developments captured in Chandler's book. This particular hierarchical breakdown focuses autonomous SBUs at the division level and makes them relatively straightforward to implement. The G.E. experience showed (see Figure 3) that SBUs can be defined at group, division, or department levels. G.E. incorporated the concept of groups into the organizational structure and sectors into the planning structure (see Figure 4). This permits SBUs to develop or create new business opportunities and sectors to develop or create new SBUs. The sector concept was the result of trying to reorganize to a manageable level information being presented to senior corporate executives for assimilation by them.

Most public and Defense Department organizations do not at first appearance correspond to the organizational breakdowns described above which would result in an easy identification of SBUs and/or sectors. Clearly, the first thing these organizations need to do is to decide if the



**FIGURE 3. SBU OVERLAY ON EXISTING ORGANIZATION**  
(AFTER: HBS CASE 381-174 P. 4)



**FIGURE 4. SECTOR-SBU STRUCTURE EXAMPLE**  
(AFTER: HBS CASE 381-174 P. 9)

sector/SBU concepts are applicable and then how to define the businesses they are in relative to the SBU guiding principle of Haspeslagh and the criteria of Hax and Majluf. The summary of the differences between government and industry executives presented in "The Role and Mission of Government and the Private Sector" (Section 1.3) provided a perspective on some of the difficulties encountered in accomplishing this task. Allison's Government Politics Model stressed the real world complications of politics in the arena of public opinion, interest groups, the White House, Congress, the military services and federal agencies, and the federal bureaucrat and careerist, all of whom have advocacies to push.

The relationship of the SBU to all levels of strategy hierarchy, the evolution of strategic planning thinking, and organizational structure has been shown. For the revised organizational structures of GM and DuPont as described by Chandler and the new G.E. organization described in the Harvard Business School cases, the SBU genesis was a natural development and a key event in the evolution of strategic planning.

NSWC, we shall see, first defined an SBU structure based upon the businesses they were in. They then

consolidated into sectors and aligned organizationally based upon sector/SBU results.

#### 2.4 The Benefits of Strategic Planning

Many authors conclude that it is not the end product in terms of a formal planning document that is the most important benefit organizations gain by participating in strategic planning. Rather, it is the array of corporate benefits that strategic planning provides throughout the organization which are most valuable and which may be unattainable using other approaches. I believe, based upon thesis interviews, that these benefits may not always be understood or appreciated by line managers who are engaged in strategic planning. The benefits most often quoted in journals are not easily measurable in quantifiable terms. Yet they can be very significant in the stimulation of strategic thinking and the generation of new ideas. These intangible benefits are said to outweigh the negatives of ambiguity and conflict which arise in the developing and implementing of a strategic planning process.

Some examples of benefits mentioned in the literature are: ~~46-49~~

- disciplined long-term (strategic) thinking and commitment to future orientated programs;
- clarification of company objectives and agreed upon and shared objectives;
- enhanced understanding and decision-making and overcoming of communication process/channel barriers;
- creation of effective action programs for initially changing and getting new programs going;
- development of employees and the provision of educational opportunities;
- provision of a framework for a set of integrated activities;
- generation of individual commitment and personal participation;
- learning how to focus on one issue and follow through on it;
- provision of linkages between executives and managers with different business horizons (day-to-day operations, short-term objectives, and long-term objectives);
- use of information and understanding obtained in strategic reviews in corporate level decision-making and portfolio analysis;
- ability to ask correct questions to produce effective strategies;
- identification of essential strategic variables and their relation to analysis requirements;
- ability to focus on key competencies and set priorities to acquire competitive edges;

- the searching out of unknown strategic goals to reduce strategic uncertainty and develop tangible information; and
- the development of systematic anticipation of actions, and their future consequences.

It is not surprising that similar benefits were mentioned during thesis interviews with NSWC personnel. Bryson offers a more concise listing of how strategic planning can help an organization to:<sup>50</sup>

- "Think strategically and develop effective strategies.
- Clarify future direction.
- Establish priorities.
- Make today's decisions in light of their future consequences.
- Develop a coherent and defensible basis for decision making.
- Exercise maximum discretion in the areas under organizational control.
- Make decisions across levels and functions.
- Solve major organizational problems.
- Improve organizational performance.
- Deal effectively with rapidly changing circumstances.
- Build teamwork and expertise."

With these kinds of benefits to be gained by effectively undertaking and implementing strategic

planning, it would be difficult to see why most organizations would not embark upon building such a strategic planning process. We saw earlier the motivating forces for the private sector. This case will present a view of the environment and forces which caused NSWC to embark upon the process.

CHAPTER 3

THE STRATEGIC PLANNING METHODOLOGY OF HAX AND MAJLUF

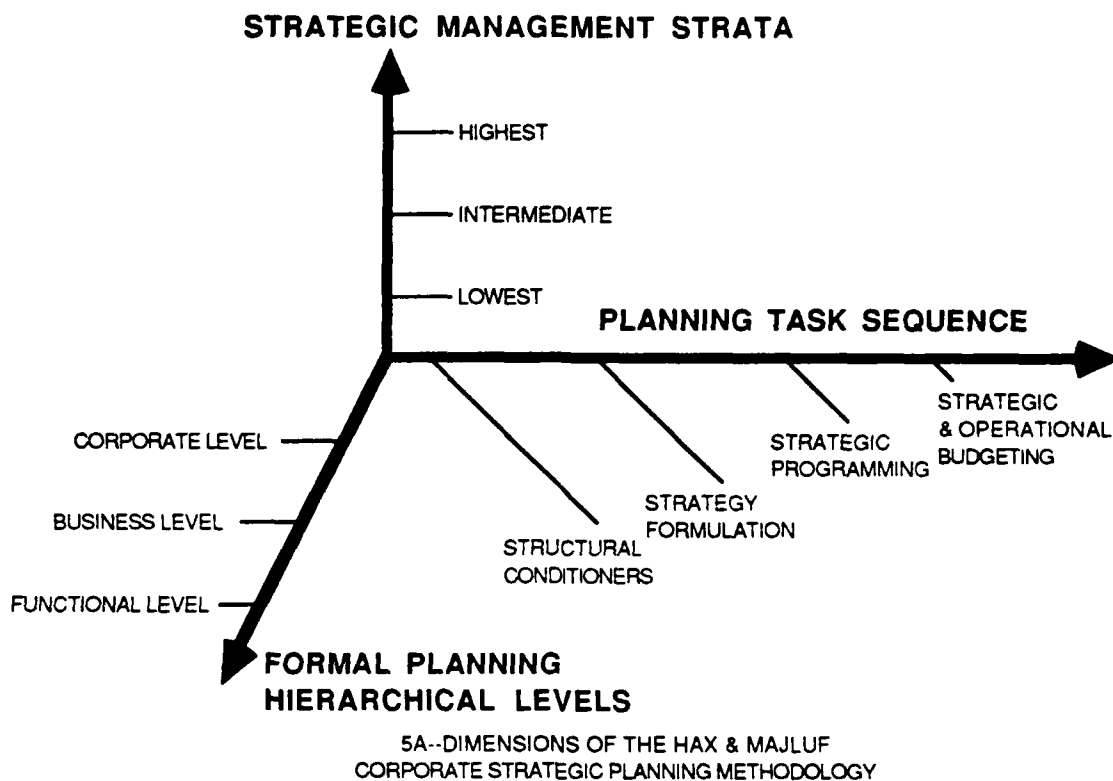
### 3.1 The Integrative Methodology

A formal corporate strategic planning process was developed by Professors Arnoldo C. Hax, M.I.T., and Nicolas S. Majluf, Universidad Catolica de Chile, to provide a framework by which planners could add structure and discipline to this complex planning activity. Recognizing that strategic planning cannot be performed mechanistically, they caution readers against trying to march through a series of fixed steps to develop a strategic plan. The authors suggest using their methodology for guidance. Modifying or adapting it based upon the organization's culture, structure, business type, environment, and administrative processes is encouraged. NSWC personnel did "dynamically" modify this methodology over three planning periods or "cycles." They were able to modify the methodology based upon the organization's ability to:

- educate and train personnel at all hierarchal levels in strategic planning fundamentals, terminology, and techniques;
- design appropriate formats and collect information/data to build required data bases and information systems for process execution;
- absorb organizational and skill realignments due to non-congruencies between organization structure and strategic planning task segmentation structure; and

- efficiently operate within the internal and external environments based upon new cultural norms for conducting business operations.

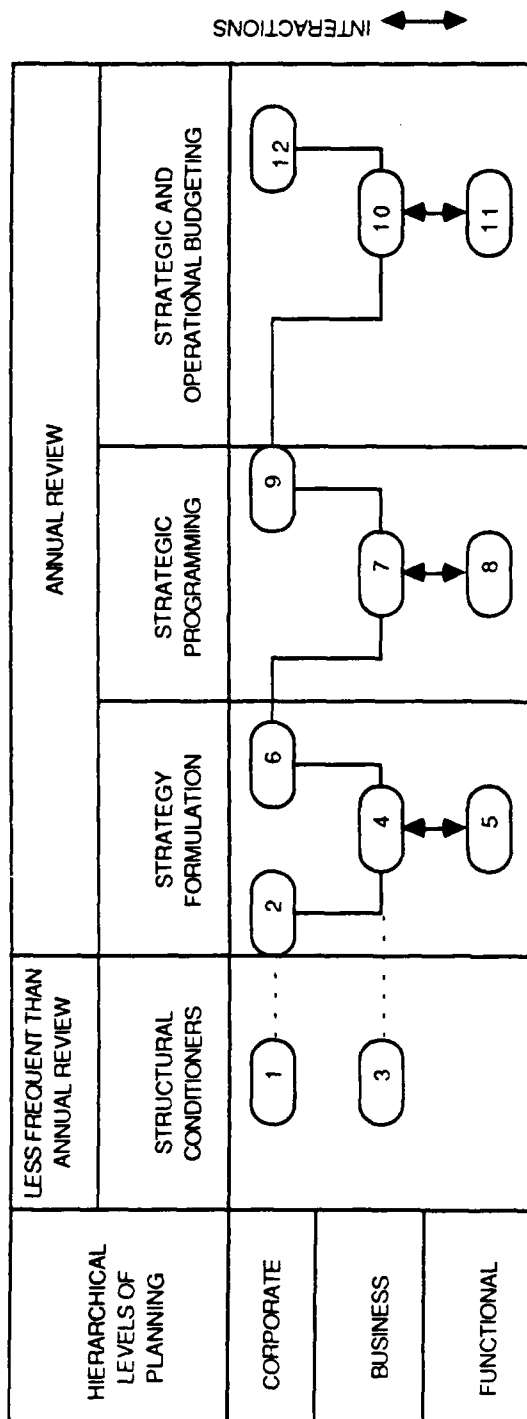
The Hax/Majluf methodology has two explicit dimensions and one implicit dimension. Figure 5A shows these dimensions. First, the fundamental hierarchical levels of formal planning -- corporate, business, and functional -- are very explicit. As we saw in earlier discussions of strategy hierarchy and Chandler's organization levels, there needs to be a natural congruency from one level to the next. Contraction or expansion of these levels may depend on the type of business, for example, the single business line versus the multiple industry firm. The second explicit dimension is the planning tasks sequence for execution: structural conditioners, strategy formulation, strategic programming, and strategic and operational budgeting. They suggest that strategy formulation, strategic programming, and strategic and operational budgeting be done annually. The structural conditioners task can be performed less frequently. The implicit dimension of the Hax/Majluf methodology is that of strategic management. This is a senior executive responsibility wedded from its inception via strategic leadership to the strategic planning process at a particular firm. Recall that the ultimate objective



**FIGURE 5. CORPORATE STRATEGIC PLANNING**

of strategic management was "the development of corporate values, managerial capabilities, organizational responsibilities, and administrative systems which link strategic and operational decision-making, at all hierarchical levels, and across all businesses and functional lines of authority in a firm."<sup>3</sup> This implies that strategic planning activities require the integration of many elements contained within the two explicit dimensions. For example, integration is necessary between planning and managerial control processes, operational mode and strategic thinking of the firm, managerial structure and culture, and strategy and corporate culture. Strategic management provides the glue for this integration provided it is folded into the strategic planning methodology. Figure 5B shows the coupling and feedback relationship between hierarchical organizational levels, leadership and management functions, and planning tasks. The leadership function is from the top down; the management function provides the vehicle for feedback and adjustment.

Figure 6 illustrates the formal Hax and Majluf corporate strategic planning process. The process is laid out sequentially in 12 steps. Detailed descriptions and discussions of each step are found in Reference 3. It is



1. THE VISION OF THE FIRM: corporate philosophy, mission of the firm, and identification of SBUs and their interaction.
2. STRATEGIC POSTURE AND PLANNING GUIDELINES: corporate strategic thrusts, corporate performance objectives, and planning challenges.
3. THE MISSION OF THE BUSINESS: business scope, and identification of product-market segments.
4. FORMULATION OF business strategy and broad action programs.
5. FORMULATION OF FUNCTIONAL STRATEGY: Participation in business strategic planning, concurrence or non-concurrence to business strategy proposals, broad action programs.
6. CONSOLIDATION of business and functional strategies.
7. DEFINITION AND EVALUATION of specific action programs at the business level.
8. DEFINITION AND EVALUATION of specific action programs at the functional level.
9. RESOURCE ALLOCATION AND DEFINITION OF PERFORMANCE MEASUREMENTS for management control.
10. BUDGETING at the business level.
11. BUDGETING at the functional level.
12. BUDGETING CONSOLIDATION AND APPROVAL of strategic and operational funds.

**FIGURE 6. THE FORMAL CORPORATE STRATEGIC PLANNING PROCESS**  
(SOURCE: HAX & MAJLUF, 1984, PP. 42 & 43)

important to note that all steps need not be included by the planners. Starting at step 1 may not be the optimum for a particular firm. The process shows clearly at which hierarchical level of planning individual tasks could be performed and that interactions are necessary to get congruency between levels. Often these interactions will be iterative in the practical application of this methodology. I believe this interactive and participatory iteration is crucial for success. The iterations develop employee buy-in at the different levels and increase interpersonal communications within particular levels and between levels.

The NSWCC case study is not a case of proving or disproving a strategic planning model. The term "model" is used to mean an abstract representation of a complex process. The Hax and Majluf basic planning steps and their flow are not obligatory for success. In strategic planning the ultimate test is not whether the model fits the facts. The ultimate test is whether the strategy identified and implemented and the strategic planning process institutionalized result in a more effective organization. The key assumptions associated with applying the Hax and Majluf methodology are:

- the necessity of employing a framework when doing strategic planning to focus choice;

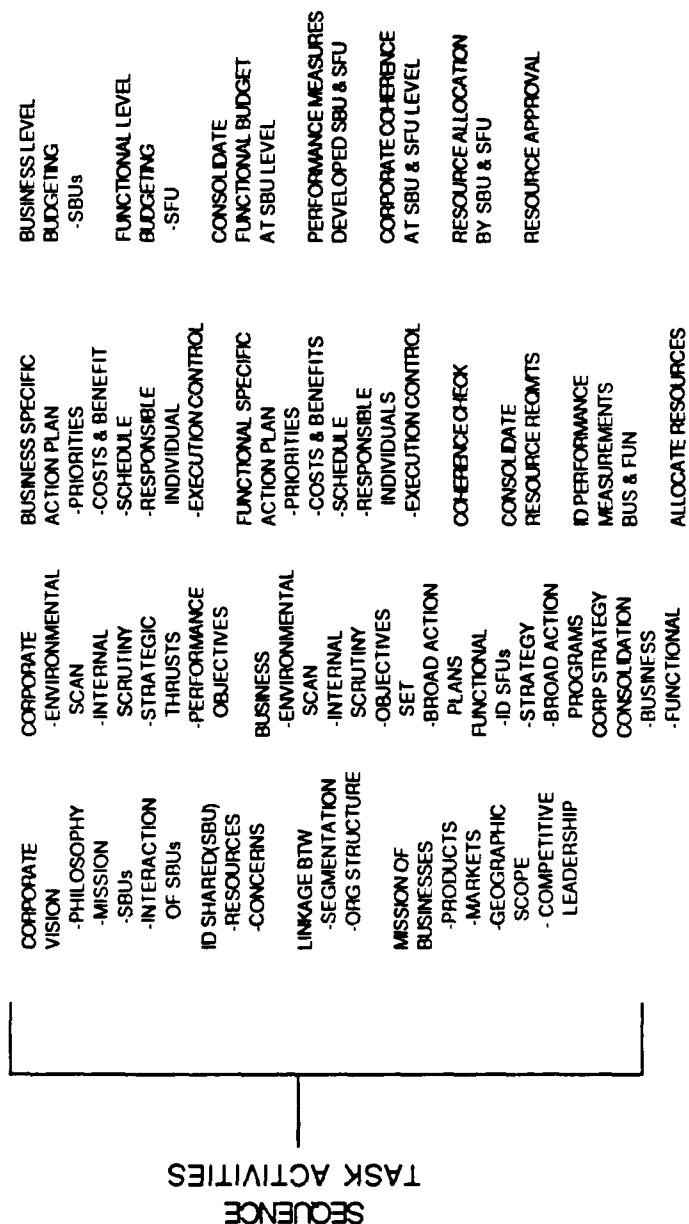
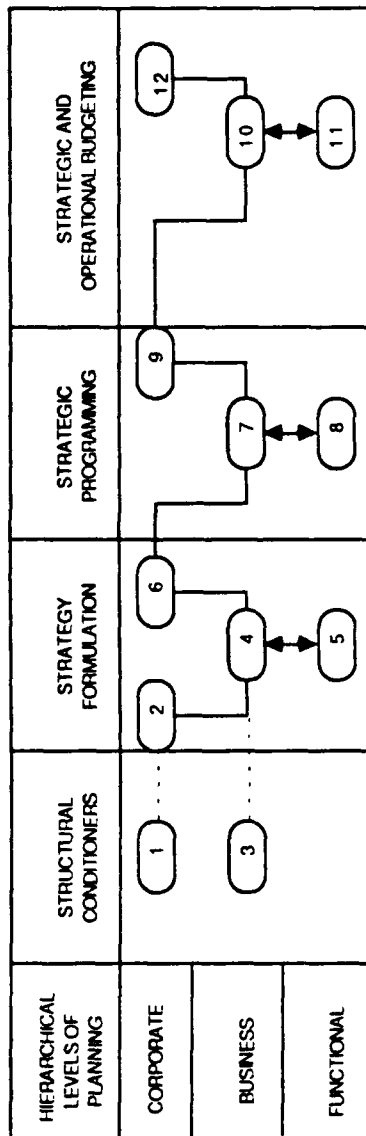


FIGURE 7. PLANNING TASKS SEQUENCE ACTIVITIES BY MAJOR CATEGORIES

Sloan Fellows master's thesis. His two goals were:<sup>51</sup>

1. "to adapt private sector strategic planning processes to a public government research and development (R&D) facility" and
2. "to provide an improved planning process, utilizing the Hax/Majluf framework, such that Department of Defense organizations like the Naval Weapons Center can incorporate the potential benefits that an explicit corporate strategy provides."

Stenger's work is a valuable contribution to the understanding of public sector implementation of corporate-style strategic planning. First, to have a common language he had to interpret the meaning of the specific terminology of private sector strategic planning in the context of a federal government research & development organization. Secondly, he had to adapt and apply the Hax and Majluf methodology on a theoretical basis without the benefit of empirical data. When Stenger wrote his thesis corporate-style strategic planning was not in use in the Navy laboratories except for the embryonic effort started at NSWC in 1982. Stenger's is one of the earliest known attempts to apply corporate-style strategic planning to a DOD research and development organization.

His stated reason for needing to consider corporate-style strategic planning within the Department of Defense

was because of increased (a) managerial complexity and administrative difficulty, (b) operational problems of agencies, and (c) the pace of environmental change. Because of the way federal bureaucracies function, he believed that (a) critical resources required for managing were controlled by stakeholders outside the organization and (b) little or no top level guidance of future Navy needs and requirements was available. He stated that federal managers find themselves "in the position of implementing or evolving complex management decisions based on implicit strategy" and that "there is a compelling need.... for explicit planning within the Department of Defense."<sup>52</sup> His approach was, first, to conduct a strategic audit of (a) the Naval Weapons Center's organizational structure, (b) the formal planning system and process, (c) the management and operational control system, (d) the senior executive reward system, and (e) the corporate culture in order to obtain a fundamental characterization of the Center. Second, he applied each of the 12 steps in the methodology to NWC/CL. In my opinion, this required significant creativity to develop and formulate a vision, strategic thrusts, SBUs, business strategies, and broad action programs. The hierarchical planning levels of corporate, business, and functional did not align with the then current NWC/CL organization. He treated the Naval Weapons Center as the

corporation and identified the Commanding Officer and Technical Director as the equivalent of the Chief Executive Officer (CEO). Center Department Heads were identified as functional managers. Steps 1 through 4 were completed in detail. Steps 5 through 12 were generally combined and discussed at a superficial level. This was necessary because specific real world corporate-style strategic planning data was not available from NWC/CL. The support side of Center operations including, for example, procurement, supply, human resources (personnel), plant development and maintenance, and finance was not specifically addressed. This is not uncommon. The strategic planning literature often does not address company support functions with any specificity. Because government agencies do not operate for profit the concept of using budgeting for control does not apply as it does in industry. Often, because of the funding methods of government organizations, the overriding constraint will be the numbers of employees rather than dollars. Thus, the use in the private sector of budgeting for strategic planning does not relate analogously to Navy research and development organizations. Lastly, the cost of implementing strategic planning in terms of dollars, manpower, emotional upheaval, and conflict was not addressed. There is no substitute for experience in the strategic planning arena when trying to evaluate the

applicability in the public sector of ideas and concepts developed over a thirty year period in the private sector. History records the many failures of private sector organizations trying to do strategic planning. We will see from NSWC experience the difficulty it experienced when introducing and employing just the concept of SBUs into the operation of the Center. The NSWC case shows that experience is necessary to determine what technically should be in an SBU and how to bring SBUs and the organizational structure into alignment. This effort to integrate SBUs only evolved over three NSWC cycles. We will show that NSWC handled the issue of support functions by creating a support sector and strategic support units (SSUs).

Stenger concluded that "the adaptation of the strategic planning framework to a public organization has been fairly straightforward with only minor changes to the process required. Indeed, the ease with which the framework can be applied is reassuring, since a planning process that provides management a 'road map' for the organization's future is essential in both the private and public sector."<sup>53</sup> Stenger's theoretical application [primarily of Hax/Majluf steps 1 through 4] to a public sector organization appeared to be straightforward. In reality, it is not. The NSWC experience will show, as is

often the case when trying to solve research and engineering problems, that theory does not reveal the practical difficulties of implementation.

Three recommendations which Stenger made deserve some discussion. There were:<sup>54</sup>

1. to begin to evolve a strategic planning corporate culture involving several levels of the R&D community in a strategic planning educational process at NWC/CL and at the Director of Naval Laboratories level;
2. to use two research laboratories as test facilities for the implementation of a strategic planning process; and
3. to adapt the strategic planning process to the entire Naval In-House Laboratory System.

A more detailed examination of strategic planning shows that caution is needed with these recommendations. One assumption being made is that if an appropriate strategic planning process can be identified by each Navy laboratory and successfully implemented by them, the organizations and the laboratory system will be more effective. There are no guarantees that strategic planning can be implemented at each Center or for all Centers collectively to obtain the benefits discussed earlier. For the reasons I discussed in Section 1.3, 'The Role and Mission of Government and the Private Sector,'

making this assumption is a very big step. It has taken six years at NSWC to get corporate-style strategic planning institutionalized or as Roger B. Smith would say "integrated into our daily lives." Because of the way the federal bureaucracy works in terms of stakeholders and controlling constituencies, even the institutionalization of strategic planning at NSWC may still be fragile. The jury is still out.

I believe that the benefits of corporate-style strategic planning in federal government agencies do far outweigh the cost or any negative consequences. In 1983, Robert Hillyer, Director of Navy Laboratories (DNL), told the R&D Center Technical Directors:

"...we must recognize the need to address long-term needs and to establish long-term objectives. The current Five-Year Plans provide a solid base to indicate our projected involvement in today's programs. The need to determine a composite long-range strategic posture for the R&D Centers requires us to shift our thinking to, at a minimum, the ten through twenty-year future time frame. It is imperative for us as a unique Navy R&D asset to understand where we could and should be going in that time period."

He requested Centers to develop strategic plans whose thrusts would:

"...include multiple views of the future Navy which can be used as 'capability targets,' assisting in the justification for prioritizing and making management decisions on future technical program investment strategies, as well as for MILCON and personnel recruiting and training."

NSWC was the only R&D Center to institutionalize strategic planning as described in this thesis and come close to achieving the strategic management possibilities of Hillyer's statements.

Based on the literature, any reader might have made the same recommendations as Stenger. They are, in fact, logical. The Naval Air Development Center in 1985 had Professor Hax conduct a strategic planning seminar and workshop. A subsequent effort was made to establish a modified corporate-style strategic planning process. But the difficulty of institutionalizing corporate-style strategic planning can be seen by the fact that currently only the results of Stenger's recommendations 1 and 2 have been achieved at NSWC.

To implement successfully Stenger's recommendation 3 given our current Navy laboratory structure, very serious consideration and thought on why and how to do it would have to be made jointly by COMSPAWAR, DNL, and R&D Center COs/TDs. Because of individual center autonomy, each organization must recognize the worth to itself of institutionalizing a strategic planning process. While the general strategic planning principles apply to all R&D Centers, the particular strengths, culture, style, goals, and executive leadership of each center may dictate very different approaches to strategic planning and management. It is my opinion that even though strategic plans can be generated on paper by decree (i.e., "answer the mail") the institutionalized strategic planning process required for successful strategic management cannot be accomplished by decree. Generally, efforts to obtain cooperation by fiat or by administrative mechanisms have been disappointing because individual centers fiercely protect their independence.

For corporate-style strategic planning to work for all centers at the DNL level, strategic leadership must ensure that the institutionalization, integration, and collaboration of strategic planning become self-enforcing

by making it necessary for each R&D Center to cooperate in order to achieve its own interests.

Additionally, two parameters required for success are (1) the continuity of strong strategic leadership for the duration of the institutionalization process, and (2) the desiring of the end result and a supporting of the process by organizational stakeholders. The all important and all encompassing roles of the Technical Director and Commanding Officer of each R&D Center in effectively establishing and institutionalizing strategic planning cannot be overemphasized. They must be the victory-seeking **Architects of Purpose**. Continuity probably means leaders with a tenure of four to seven years. Most military officers rotate every three years. Historically, examples do exist in the R&D centers and in systems commands of civilian senior executive tenure of this length. But the military boss rotates every three years. One of the keys to NSWC's continuity was a Technical Director who arrived about a year after the process was started and who remained in that position for five years actively taking on the role of process champion and sponsor.

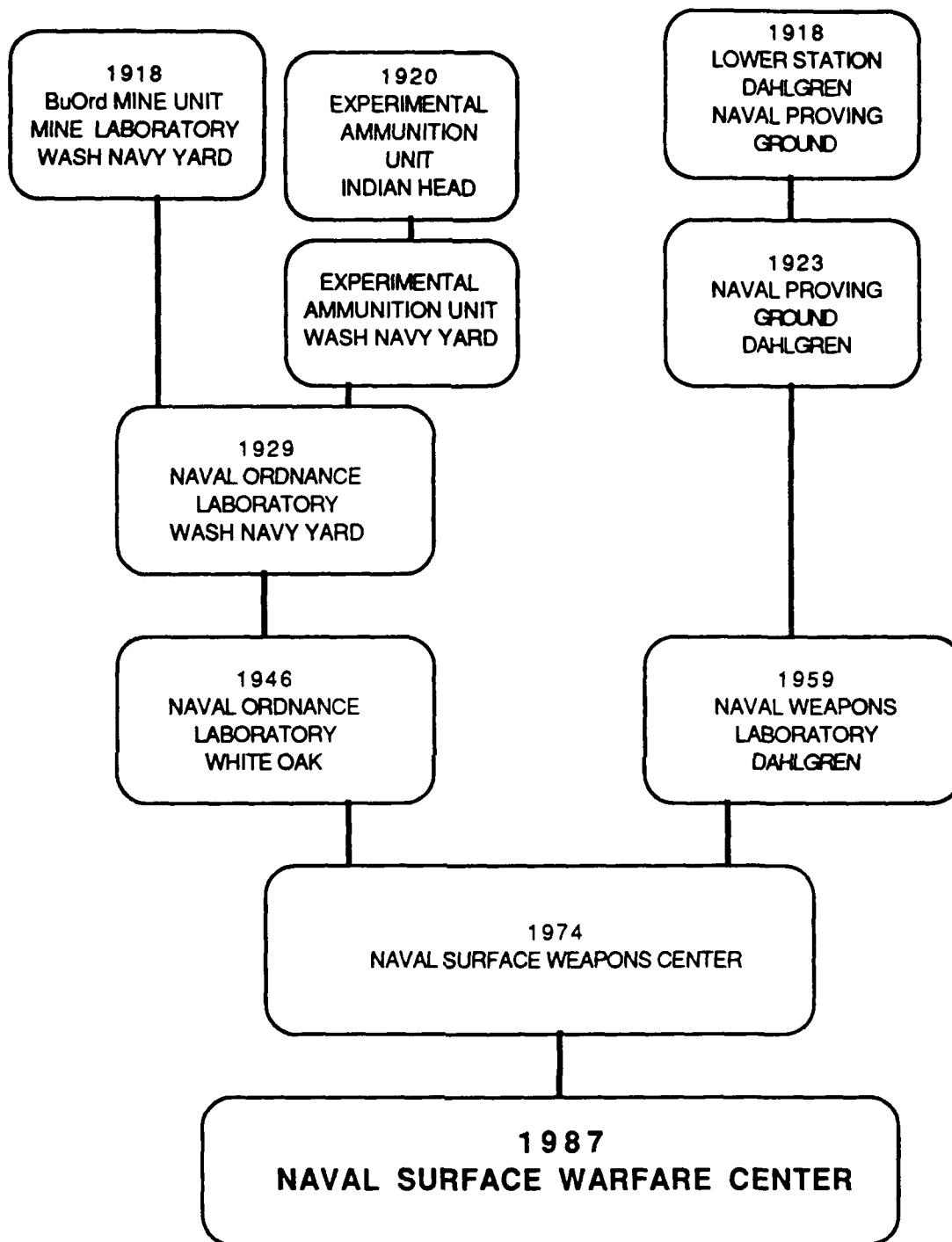
Before attempting to implement corporate-style strategic planning universally across R&D centers, I

believe with Stenger that it would be beneficial to get corporate-style planning systems established at as many centers as were willing to undertake the challenge with well-defined metrics for performance measurements. The established processes, plans, and their results (long-term) will require careful evaluation for benefits and payoff to the Navy. Then, if deemed successful based upon the metrics of performance, consideration should be given to adopting a corporate-style planning process at the remaining centers with integration at the DNL level.

CHAPTER 4  
THE NAVAL SURFACE WARFARE CENTER (NSWC)

#### 4.1 An Introduction to NSWC

The Naval Surface Warfare Center [formerly the Naval Surface Weapons Center] (NSWC) was established in 1974 with the merger of the Naval Ordnance Laboratory (NOL)<sup>55</sup> at White Oak, Maryland, and the Naval Weapons Laboratory (NWL)<sup>56</sup> at Dahlgren, Virginia. NOL and NWL have long traditions of research, development, test, and evaluation in support of all warfare mission areas of the Navy and Marine Corps.<sup>57</sup> Figure 8 shows the origins and development of the Naval Surface Warfare Center. NOL traces its history to the establishment in 1918 of a Mine Unit at the Washington Navy Yard, and NWL traces its beginnings to the 1918 establishment of the Naval Proving Ground, Lower Station, Dahlgren, Virginia. These organizations evolved into NSWC. Its two sites have a combined area of over 5000 acres which includes extensive unique military range and physical research facilities. These properties include: chemistry, plastics, metallurgy, robotics, and explosives laboratories; hydroballistics, hydroacoustic, and aerodynamic test facilities; electromagnetic and environmental simulation facilities; and combat/weapon systems integration and evaluation facilities. Additionally, it has detachments at three major field testing facilities located at Fort Monroe,



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**FIGURE 8. ORIGINS AND DEVELOPMENT OF NSWC**

Virginia; Fort Lauderdale, Florida; and Wallops Island Virginia.

The Center's mission is:<sup>19,58</sup>

**to be the principal Navy RDT&E Center for  
Surface Ship Weapons Systems, Ordnance, Mines,  
and Strategic Systems Support.**

NSWC's primary mission is in Surface Warfare. The Center is responsible for Navy-wide leadership in the following areas:<sup>19,59</sup>

- surface ship combat systems engineering and integration
- surface warfare analysis
- surface ship electromagnetic/electro-optic reconnaissance and search systems
- surface ship gun and missile systems
- mine, torpedo, projectile, and missile warheads
- surface ship electronic warfare
- navy strategic systems targeting and fire control
- mines
- nuclear weapons effects
- surface ship biological and chemical warfare defense
- directed energy weapon systems

- explosives (principally research)
- mine, torpedo, and projectile fuses.

The total funding of NSWC in fiscal year 1989 was estimated to be \$684.4 million. In April 1987, the Center employed 4,824 civilians [full-time permanent] of whom 2,399 were scientists and engineers. The Center's military complement included 33 officers and 67 enlisted personnel. The staff has been built through the process of attracting the best professional technical engineers and scientists by providing them unique opportunities to conduct research and development. NSWC is characterized by:

- Technical Competence
- Risk Taking
- Full Spectrum Technical Activities
  - Technology Base
  - Development
  - Fleet Support
- Doing and Not Overseeing
- Future Navy Needs Oriented
- Product Orientation
- Sponsor Acceptance and Credibility

Organizationally, the Center is composed of eight technical departments and five support departments. Subordinate department line organizations are divisions and branches. Major program offices are typically on a department's staff. Figure 9 shows the current NSWC organization at the department level. Within the technical departments, the Engineering, Protection Systems, and Research and Technology departments matrix their technical efforts primarily across the Electronic Systems, Weapons Systems, Combat Systems, Underwater Systems, and Strategic Systems departments. The support departments are Public Works [Facilities], Personnel Management [Human Resources], Supply [Procurement], Comptroller [Financial], and Command Support [Security, Safety, and Administrative]. The Center business is managed by a Board of Directors (BOD) and five corporate decision-making boards. The twenty-two member BOD is composed of command military officers and senior executives, technical and support department heads, and command staff representatives. One of the responsibilities of the Center's principal senior management group, the BOD, is NSWC strategic planning. Typically it meets bi-monthly. The size of the BOD is not the most effective for making corporate decisions. Therefore, NSWC has a specific corporate decision-making

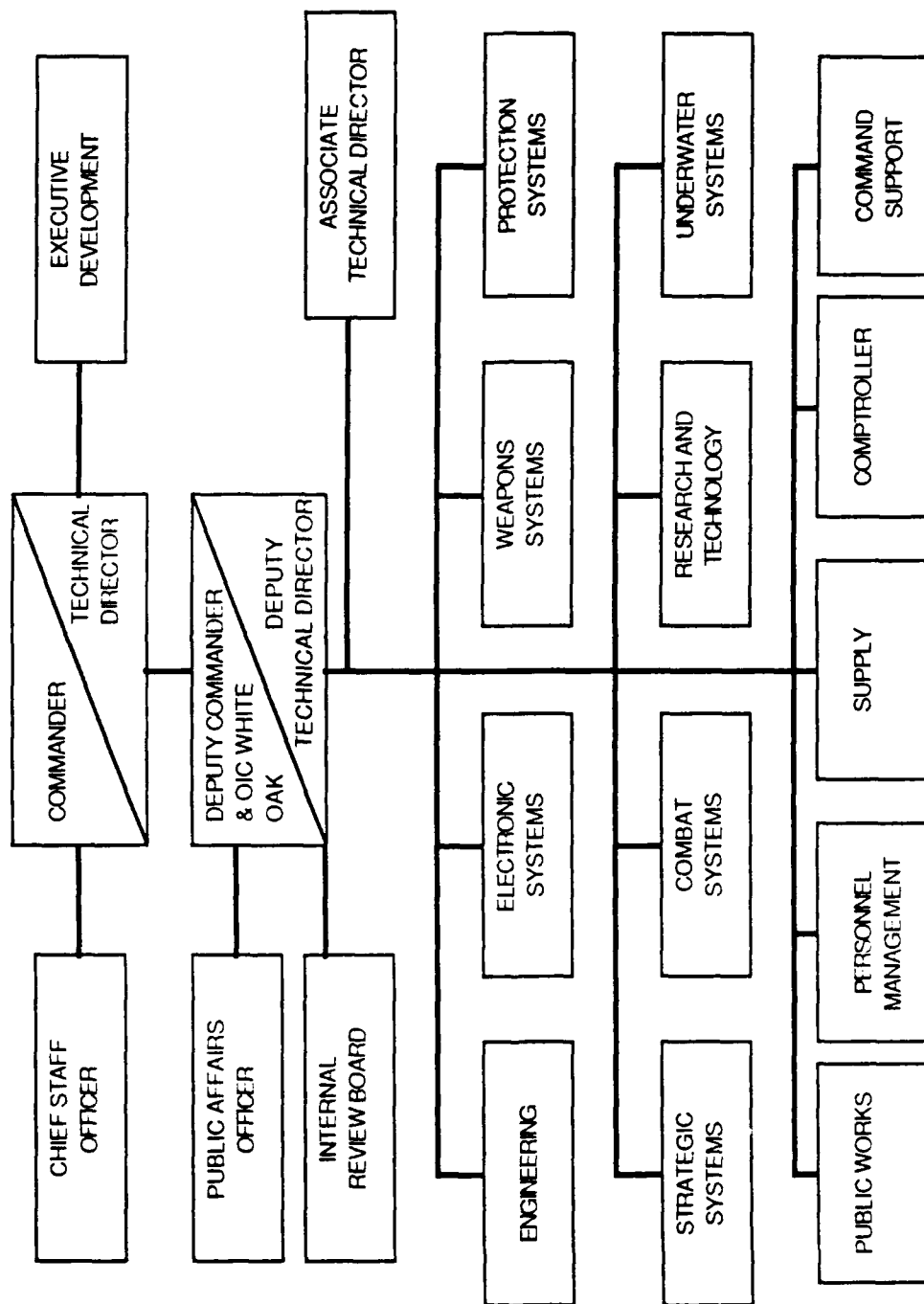


FIGURE 9. NSWC ORGANIZATIONAL STRUCTURE

body. It is composed of an executive board (CO, TD, Deputy TD, and Deputy CO) and four resource boards. The resource boards report to the executive board. The four resource boards are:

- (1) Finance and Business Systems
- (2) Human Resources
- (3) Facilities, Equipment, and Logistics
- (4) Technical Planning and Evaluation.

The membership of these decision boards is composed of a small number of technical and support department heads (BOD members). They meet once a month and serve as review and comment boards for issues, options and recommendations being presented to the executive board for decision.

Prior to the NSWC strategic planning effort in 1982, there was no corporate level planning performed whose resultant plans were used to manage the Center from a strategic management perspective (see Appendix G). Planning activities were performed largely to satisfy requests from headquarters. These planning activities were typically of the long-range planning type. They generated (a) Center level five-year projections of programs, work-years, and funding, (b) technology program plans for three to five year periods, and (c) programmatic

plans for major programs based upon Navy procurement pipelines. If there was any strategic level planning [i.e., environment orientated with vision of future success] occurring, it was only in the minds of the Center's experienced and capable leaders. Such a mode of operation does not foster the kind of commitment required for effective implementation nor does it result in a coordinated network of plans with a rational resource allocation methodology. In a complex and rapidly changing environment a disciplined strategic planning methodology provides (a) the means to develop information for strategy formulation, (b) the rational methodology for resource allocation, (c) and the personal commitment required to develop and implement a network of plans.

#### 4.2 Why Strategic Planning at NSWC?

Several internal and external environmental conditions raised the level of management's attention to the need for a means which would provide a cohesive focus on the Center's mission and permit some control in shaping its future destiny. Administrative operations, resource constraints, and rapid technological change in warfighting are three factors requiring explanation.

First, the Center was known to have very competent risk-taking research scientists and engineers (S&Es) capable of working Navy problems across a spectrum that included technological, developmental, and Fleet support areas. Customer demands had generally exceeded services available (over the last 10 to 15 years). Prior to the advent of strategic planning, any technical manager could easily obtain funding for his group from Navy sponsors provided there was a willingness to do the sponsor's work. NSWC areas of specialization generally overlapped with what the Navy or Marine Corp sponsors desired.

Highly talented and creative technical professionals in research and development typically require a large degree of autonomy and an entrepreneurial environment if technical innovation is to occur. It is natural in R&D organizations to provide people the freedom to be creative and to delegate authority and responsibility to the lowest levels possible. The tendency is for many individual groups to develop with strong loyalties to their sponsors. Many of these groups do very excellent and mostly relevant work which is viewed by the group and sponsor as critical to the Navy. If it continues in this vain for a sufficient period, the organization ceases working toward a common mission. It becomes a technical body shop. A keystone of Command's belief was that one of the primary

reasons for the R&D Center's existence was "to give the Navy what it needs and not what it wants." Over time an organization which becomes a mosaic of individual efforts and tasks loses the ability to make individual decisions for the overall good of the Navy. It tries to respond to hundreds of sponsor's goals because "they have the gold." The organization's goal becomes one of satisfying individual sponsors. It loses sight of overall organizational goals and loses control of its destiny. This was happening at NSWC.

Second, a period of tighter external management controls or constraints was being experienced by Center management. And it looked as though even more controls would be imposed in the future. It was obvious that there would not be enough of the resources that Center managers and program sponsors wanted to go around. The mode through which the Center did business had to change. In 1980, the Reagan presidency began with promises of limiting the size of government, reducing costs, and improving efficiency. The laboratories had a history of being controlled by various external mechanisms such as personnel billets, ceilings, total work years, and average grade levels rather than by total budget. Thus, people [work-year] resources were the critical constraint. Constraining factors, often dictated by higher authority,

did not have any direct correspondence to the desires or needs of the Center's sponsors for services. Because the Center is Navy Industrially Funded (NIF), sponsors provide the funding directly to NSWC. Records for the full-time permanent (FTP) civilian on-board count for all the R&D centers showed decreases from 21,315 in fiscal year 1976 to 18,703 in fiscal year 1980. In fiscal years 1976 to 1978, Congress cut the Department of Navy (DON) RDT&E billets. During fiscal years 1979 and 1980, billet cuts were experienced in DOD/DON productivity and commercial activities (CA) programs. Figure 10 shows the NSWC personnel trends as a function of time. During the period 1977 to 1982, Center managers were being asked to do more with less. Ironically, the billet ceilings were removed in fiscal years 1983 and 1984. However, the additional management controls and constraints anticipated in 1982 did become reality.

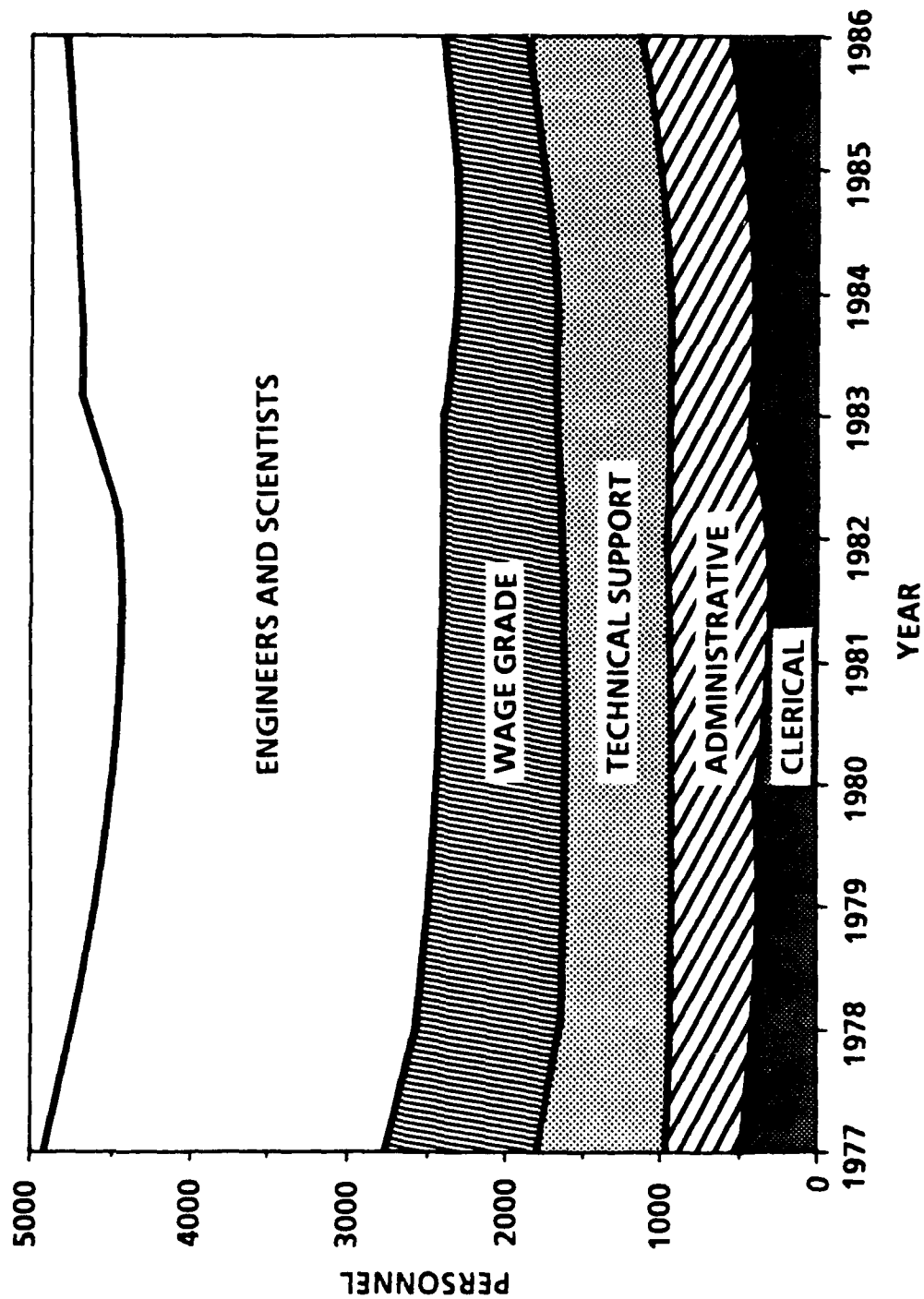


FIGURE 10. NSW PERSONNEL TRENDS 1977-1986

Some of the controls imposed were:

- Asset Capitalization Program                     October 1982  
       (dollar limit on expendable funds)
- Carry Over Funds Limit                         March 1986  
       (minimized funds carried fiscal year  
       to fiscal year)
- Manage To Payroll Limits                       September 1986  
       (dollar limit on center payroll  
       replaced billet/work-year restriction)
- Overhead Expenditure Limit                    November 1986  
       (specified annual overhead maximum)

If resources were to be aligned so that the most important, highest priority Navy programs could be executed, divestiture of work would be required. A longer term understanding of needs and priorities of the Navy and their relations to NSWC's mission was required. Resources including dollars, facilities, and people would need to be allocated internally. Day-to-day decisions had long-term implications for the Center. Managers were faced with issues of how to make these resource allocations and divestiture decisions.

Third, the nature of surface warfare was undergoing rapid technological change in the U.S. Navy and was accompanied by sustained increases in the threats capability. Figure 11 portrays the change from fighting with sub-systems, to systems, to combat systems, and ultimately to fighting with the force (multiple carrier battle groups). Future full-scale general war and third world crisis intervention situations would rarely find a carrier battle group much less a single combatant operating alone. The synergism of multiple carrier battle forces and battleship surface action groups would be used to address the awesome complexity of modern naval warfare. Successful maritime security would continue to depend upon significant assistance from allies and sister services bringing to the forefront the allied and inter-service issues of warfighting integration, commonality, and interoperability.

As the Navy moved into an era focused on force level warfighting, unique opportunities presented themselves to the R&D community. Research and development projects frequently span decades. Navy surface ships have lives of 30 to 40 years and require continual improvement or replacement of combat systems. With the changes shown in Figure 11 a significantly increased emphasis on software

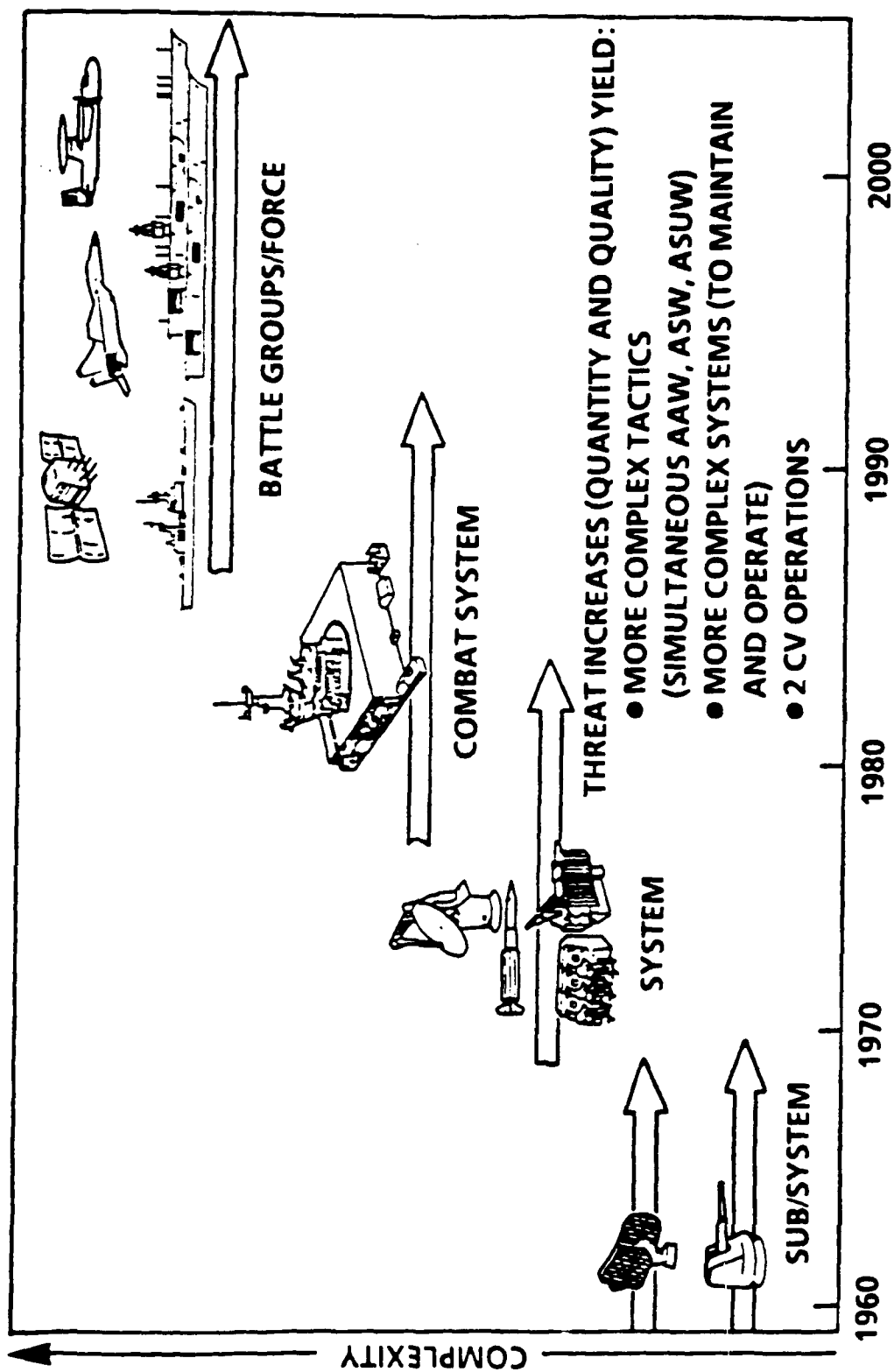


FIGURE 11. THE INCREASING COMPLEXITY OF U.S. COMBAT SYSTEMS AS A FUNCTION OF TIME

engineering for the high technology combat and weapons systems emerged. The AEGIS weapon system and the Tomahawk missile system are examples of major Navy programs involving NSWC. Managers recognized that the decades of the 80s and 90s would tax their wisdom and ingenuity in determining the proper resource balance between systems and software technology, traditional technology-based thrusts, and product line commodities. Decision-making senior executives and line managers wanted something which (a) reduced and focused decision-making information and (b) considered the long-term impacts of decisions for a range of possible futures.

At a January 1982 NSWC senior executive meeting on "why we need to plan strategically" the following observations were made:

- "we are reacting each year to market opportunities rather than being pro-active and creating our own opportunities
- when we are asked to take a program, it is usually late in the life cycle and usually work nobody wants to do; we need to anticipate programs and get in early on the front end
- the Center is being driven by Systems Commands and our own shortsighted program managers
- we see opportunities too late to be able to assemble resources to take advantage of them
- we don't do well in acquiring facilities for our Center because we can't make the case for them with a short-term mindset

- we can't make the changes in the Center's programs in the short run but we can do so in the long run
- we are making long-term program commitments for the Center without full knowledge of their future impacts
- resource allocations, one year at a time to stress points, is a poor strategy: who we hire today will determine what we can do in the future; are we heading for disaster?
- we do not have control over the Center's future."

The need for strategic planning at NSWC can be summarized as a response to:

being near-term driven by sponsors;  
 concern for the R&D organization's work balance;  
 concern for the character of the R&D Center; and  
 posturing the Center for the future.

These events gave rise to NSWC's senior executives and managers recognizing the need for something to help them meet the challenge. The answer was sought in corporate-style strategic planning. It was decided in the early 1980s that a Center-wide strategic planning effort could provide the framework for decision making with a

future-orientated perspective for managing the businesses.

The initial Center objectives were threefold:

- a. to develop a strategic planning system and associated processes that would facilitate the generation of a comprehensive set of plans for the entire Center, ensure their implementation, and provide for review and control;
- b. to prepare a "first cut" at a Center strategic plan which would delineate a desired future mix of problems and products, along with strategies for reaching these objectives; and
- c. to build a planning culture throughout the organization using participative planning and decision methods to improve organizational performance.

The principal strategic planning institutionalization events were:

- |      |   |
|------|---|
| 1982 | IMPLEMENTATION OF ORGANIZATIONAL PROCESS DEVELOPMENT  |
| 1983 | CYCLE I -- Strategic planning for technical departments only, corporate thrust identification, and work-year allocations                      |
| 1985 | CYCLE II -- Strategic plan for total Center, technical and managerial thrust/challenges, all technology one sector, and work-year allocations |
| 1987 | CYCLE III -- Vision, guidance, plans, Center model, manpower vectors, technology in all sectors   |
| 1988 | CYCLE III -- Tactical action plans  |

These activities, shown in Figure 12, are the focus of the remainder of this thesis. Often there are not sharp lines of demarcation between activities within a cycle or from cycle-to-cycle. As the activities of the three cycles are described Mintzberg's conceptualization of crafting strategy may also capture part of the process by which NSWC's strategy came into existence. For example, the idea of maintaining a work balance at NSWC is a theme with roots in the Cycle I philosophy statement [see Appendix C] which became an important element of the Cycle III vision and 1997 Balanced R&D Center Model. At the start, many implicit assumptions were being made by NSWC. Some were that: (a) Department and Division Heads would give up some of their autonomy for the corporate good of NSWC, (b) executive and management agreement was possible, (c) the ability and the discipline to implement existed, (d) results would improve NSWC's performance, and (e) strategic issues could be identified and managed. The institutionalization of strategic planning at NSWC would be a 'major SEASTATE CHANGE for employees' in the method of doing business. New work accepted by the Center would be based on sector, SBU, and SSU plans. Sponsors would be dealt with in new ways. Certain types of work would be stopped and divested. However, the Center was aware that

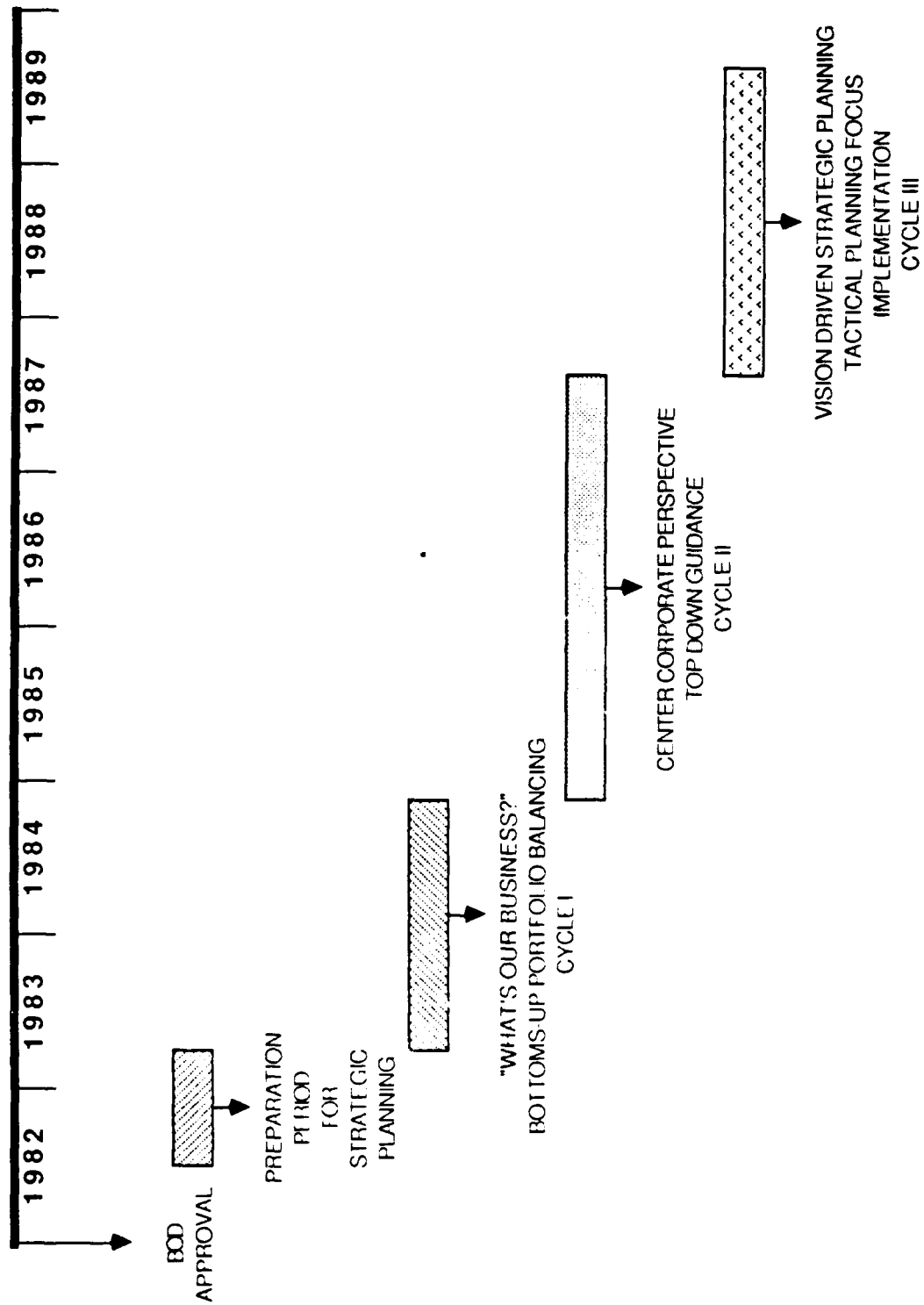


FIGURE 12. NSWCTOP LEVEL STRATEGIC PLANNING PERIODS

strong, entrepreneurial and technically autonomous employees could be frustrated by the process of strategic planning. Since the Center did not want to lose these very capable people, it moved slowly into strategic planning. Figure 12 confirms that changes of this type could not be made in a short period of time. It took three years to see strategic planning progress and approximately five years to integrate strategic planning into the daily lives of NSWC employees. With effective planning and goal setting most organizations can achieve their objectives. Without it, results may occur but in a haphazard fashion. In Chapters 5 through 8, we shall examine the events which transpired so that the reader can judge whether (a) the issues of the January 1982 senior executive meeting were resolved by the strategic planning process, and (b) whether the Center's initial objectives were achieved.

CHAPTER 5  
DEVELOPMENT AND IMPLEMENTATION OF STRATEGIC PLANNING

## 5.1 Introduction

This chapter discusses how NSWC prepared itself for corporate-style strategic planning and how it balanced its portfolio through work segmentation. There were many avenues NSWC could have taken in developing strategic planning.<sup>4</sup> It chose the corporate-style of planning based upon the revolutionary idea of strategic business units as presented by Hax and Majluf. Even though NSWC had available the results of the post World War II 'golden age' of strategic planning, there were no road maps for this federal sector R&D organization and no examples to mimic in the institutionalization of **corporate-style strategic planning**. It is important to identify and explore the blind alleys and the stumbling blocks NSWC encountered along its path for the benefit of other public sector organizations. NSWC did succeed and did achieve the tangible and intangible benefits described in Chapter 9. It now has **core skills** which give it an **agency specific advantage**.

The issues discussed in Chapters 5 through 8 will be of interest to public or private sector organizations contemplating strategic planning. NSWC did not start strategic planning from scratch. It had done Center level long-range planning and programmatic level planning for

programs like AEGIS, Strategic Systems, Tomahawk, and Standard Missile. Major weapon system programs of this complexity could not have been successful without very strong and detailed schedules, plans, and milestones. Because the R&D business by its nature is human capital intensive, NSWC had professionals with good basic skills and capabilities for doing planning. What NSWC had not been doing was taking a corporate look at where it was going. Nor did it understand the issues of how to get there, why it had to go, the risks involved, and the options or alternatives possible.

The strategic planning process adopted was structured and formal with workbooks, worksheets, procedures, and presentation formats. The leadership did not let the process become bureaucratized or routinized. The process did require a significant effort to build a spirit of teamwork and trust.<sup>60</sup> Use of the term 'cycle' connotated a repetitive and periodic process. However, the Cycles I, II, & III shown in Figure 12 were not true cycles. They varied in length and in activities performed. There was a conscious attempt during the pre-planning for Cycle III to define a more structured planning cycle. There are conflicting opinions as to whether NSWC's strategy would have been different had it defined a true cycle at the beginning of the planning process in 1982. Had this

occurred and had NSWCC adhered more closely to the Hax/Majluf methodology NSWCC could have (a) highlighted the critical need for a corporate vision and analysis, (b) developed an understanding of the importance of having evaluation and management control processes, and (c) prevented loss of the strategic view which resulted in the BOD's allocating resources to the 0.5 work-year.

All cycles produce plans, but only Cycles II & III produce strategic plans. For NSWCC Cycle III produced a coordinated Center network of strategic and tactical plans. I have taken the position that NSWCC was doing strategic planning and management for all three cycles even though the Center's capability to think and act strategically significantly increased during Cycle III. Strategic management has many strata. Following the definition given on page 41, the Center was in infancy during Cycle I, at the novice level during Cycle II, and at the advanced beginner level during Cycle III. The next two sections and Chapters 6, 7, and 8 present a more detailed analysis.

## 5.2 Preparation for Strategic Planning, June 1982 to April 1983

This time frame (June 1982 to April 1983) was a period of preparation for strategic planning. The key activities of this period are shown in Figure 13. The Center had not maintained large command level staff groups. But, staff organizations often serve as the seed bed for new managerial or technical efforts addressing Center-wide issues. However, with the need for strategic planning recognized, the decision was made in January 1982 to proceed and to develop an orderly thoughtful process which would allow NSWC to have some degree of influence in shaping its future. The Center asked Dr. James R. Pollard to lead a command level staff team which would recommend to the Board of Directors a methodology or process to adopt for the purpose of strategic planning. Dr. Pollard was just returning to NSWC after completing a Ph.D. program at the University of Virginia. He had had many years of experience in the Navy R&D community in both engineering and line management positions. In June 1982, a team was established from technical department personnel composed of Dr. Pollard, an engineer from the Electronic Systems Department, a senior technical member of the Command staff, and a secretary. Dr. Pollard through his

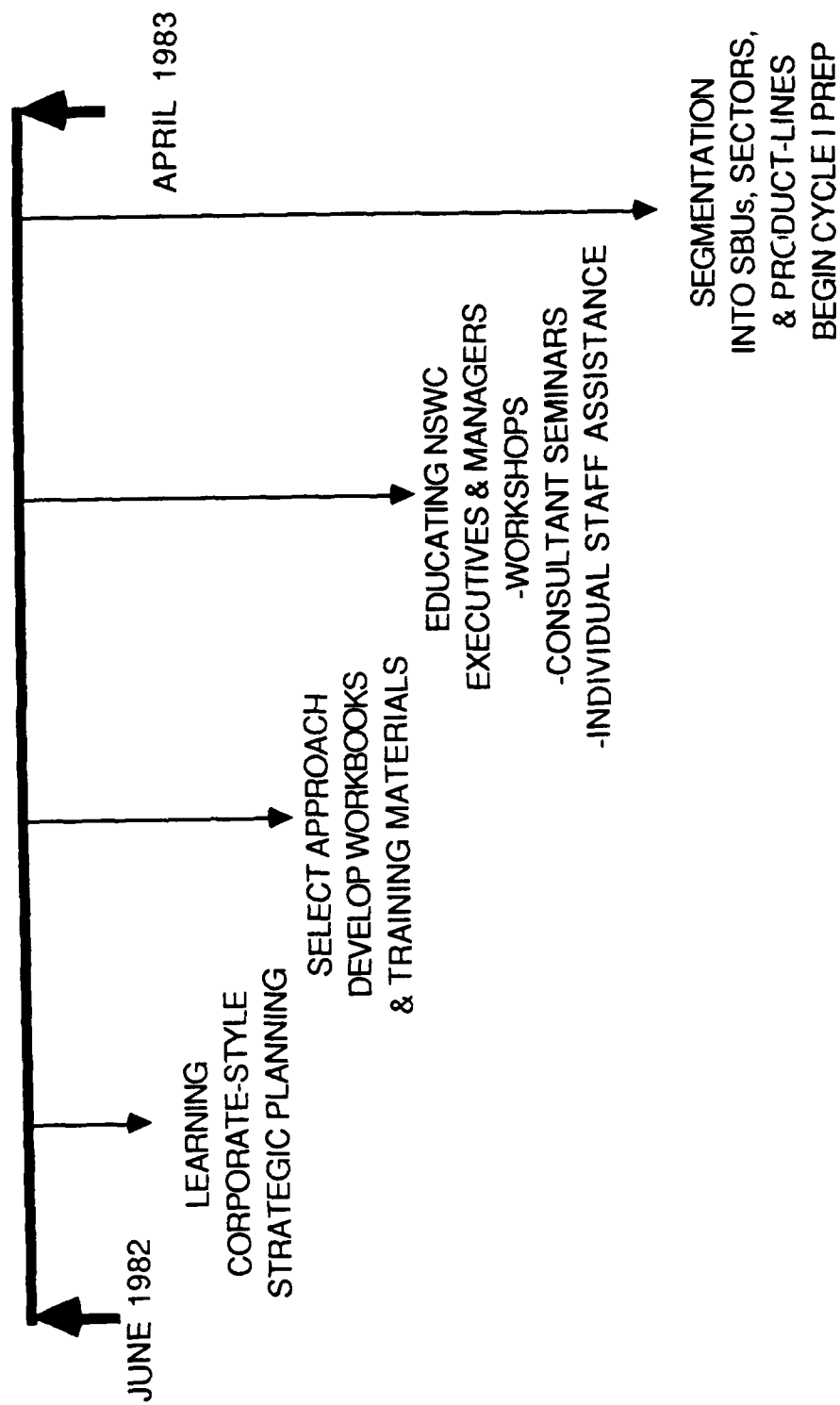


FIGURE 13. MAJOR ACTIVITIES OF THE PREPARATION PERIOD FOR NSW STRATEGIC PLANNING

personal leadership and managerial skills made very significant contributions to the development and institutionalization of corporate-style strategic planning at NSWC.

The strategic planning staff's function was to determine the methodology and process for strategic planning and to develop a plan to apply it at NSWC. They had almost complete freedom to determine for NSWC the process to be used, the individual activities, and the schedule of events. At this time, the Center also had an advanced planning staff at the command level whose focus was primarily external assessment. The focus of the strategic planning staff was to be internal. This complementarity provided flexibility and momentum for the strategic planning staff to be agents for transformation. Though this proved to be the correct decision, the advanced planning staff and the strategic planning staff were subsequently merged to combine all Center planning efforts.

The strategic planning group spent the next year in preparation for what would become the Cycle I period. It was particularly important for the staff to know how fast changes could be introduced and absorbed by the organization. They had to pace events accordingly.

Having a planning group made up of competent internal people who understood the language of the organization and the problems faced by line managers helped to set the pace. This particular selection of internal individuals may have been a critical success factor. Activities in this period included primarily:

- a. learning what corporate-style strategic planning entailed by extensive review of available literature and text books and discussions with consultants in the field;
- b. selecting the approach to be implemented and developing workbooks and training materials for educating Center line managers;
- c. educating Center executives and line managers through workshops, consultant presentations, and individual staff assistance; and
- d. segmenting the Center into sectors, SBUs, and product lines and identifying responsible individuals in preparation for Cycle I.

Early in this phase, a policy decision was made which, I believe, was critical. It was decided that (a) the line managers must do the planning not the staff and (b) the process was to be participative and interactive. This had significant implications for institutionalizing strategic planning and in particular for the first year's activity. It meant that employee buy-in and acceptance of the basic concept of strategic planning at NSWCC had to be obtained from the beginning. Acceptance would be

absolutely crucial to getting strategic planning implemented. Because strategic planning involves many ideas which are by their nature abstract with non-quantifiable benefits, line managers initially saw the effort as simply one more bureaucratic paper exercise to add to their administrative burdens. This feeling may have been counterbalanced by the participative emphasis and interactions between levels of management which facilitated the process and continually reinforced to line managers the Center's commitment to develop a strategic planning process. The Commanding Officer (CO) and Technical Director (TD) were the process sponsors who endorsed and legitimized the staff's role. The strategic planning staff was the catalyst for the development and implementation of the strategic planning process. As process champions, the staff guided and shepherded the Center into making major cultural change and qualitative shifts in direction.

Because of the enormity of the task, the staff could have consumed all resources dedicated to it. In the 70s many corporations had large corporate planning staffs which generated plans for line managers to implement. This top down approach resulted in a strategic plan that was not accepted by the line organization and in a process which did not become institutionalized. Chief executive

officers discovered to their dismay, that line managers needed to do the planning themselves supported by a small corporate staff or a facilitating group. This industry example and the FDA experience with staff size were probably the principle reasons that NSWC's strategic planning staff started small and remained at less than four people over the eight years of its existence.

The strategic planning staff, hereafter referred to as the staff, used workshops, written surveys, and consultant seminars as tools to get the planning effort started. Professor Arnolando C. Hax, from the M.I.T. Sloan School of Management, presented an initial seminar to Center executives, department heads, and a group of division heads. At this seminar, the terminology and philosophy of corporate-style strategic planning was discussed. The concepts of hierarchical levels of planning, strategic business units (SBUs), strategy and structure linkages, and use of an integrative decision-making process were introduced. Key questions such as, What businesses and product lines are we in? and What do we want to accomplish as an organization? were addressed in seminar working groups. NSWC did not initially try to form a strategy and fit the structure to it. Rather, it worked to define what businesses it was in and the product line elements of each business without regard for the

current organizational structure or boundaries. Managers quickly realized that this process could (a) impact "rice bowls," (b) result in the redistribution of assets and power, and (c) require the relinquishment of some degree of autonomy for the corporate good. **Success would require a significant team building effort and a continuously strong corporate executive commitment to the process.** Though perhaps not obvious, it was a major step for a public sector organization to think in these terms. NSWSC adopted the idea of SBUs. Professor Hax's introductory seminar and written strategic planning materials had a very significant effect on how NSWSC proceeded.

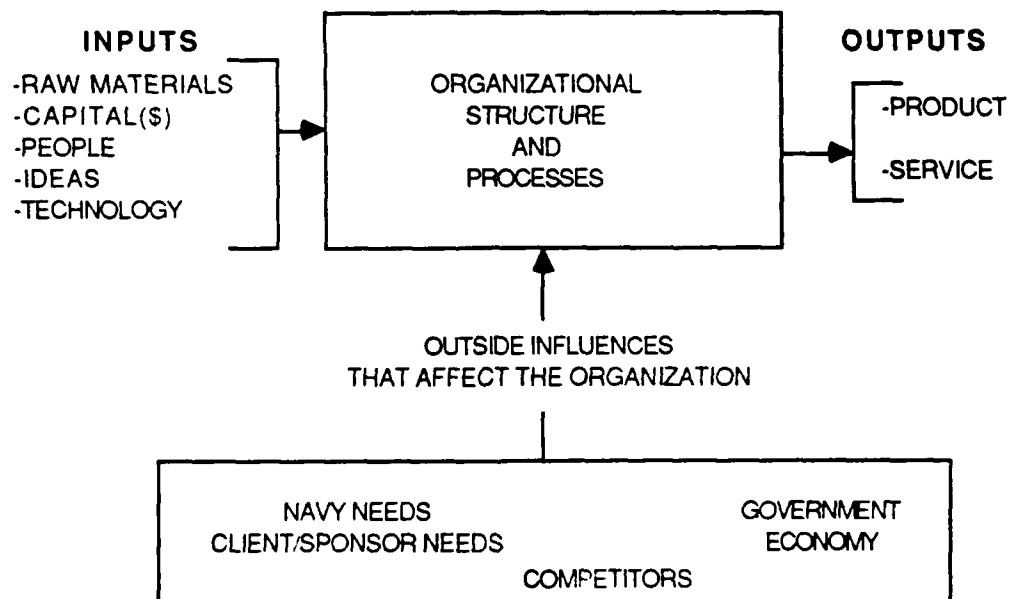
The staff built on this seminar experience and put significant effort into defining SBUs and their product line elements. Attention was, by design, initially focussed on the technical departments because the business of the Center was research and development. (We will see in the next section why NSWSC's SBUs were consolidated into sectors similar to the GE experience.) The support department personnel, who made up approximately one-third of the Center's human resources, were closely coupled into the process by the staff after the establishment of technical SBUs. Strategic Support Units (SSUs) were used as the mechanism for this coupling. Analogous hierarchical levels of planning at NSWSC are shown in

Figure 14. Roles and responsibilities of the various management levels for strategic planning purposes were defined. Workshops and training sessions were held both with individual departments and on a wider basis across the Center. During these sessions the Delphi process<sup>61</sup> and Nominal Group Techniques<sup>62</sup> were used for consensus building and for obtaining participants' acceptance. Major elements of the emerging strategic planning process [e.g., market needs analysis, internal and external scans, product line analysis, SBU product action plans, and integration and resource allocation] were discussed and worksheets were utilized. As one might expect, the staff had to develop a specific example of the materials to be generated by line managers. The staff also used individual interviews and questionnaire surveys to gather information which was compiled and fed back to participants for comments and consensus building.

A very detailed planning document called "Strategic Planning Workbook for the Naval Surface Weapons Center - -A How to do it Guide for Managers"<sup>63</sup> was prepared. The primary purpose of the workbook was to (a) provide managers with a single set of procedures for the planning cycle, (b) provide worksheets and techniques to add

ORGANIZATION STRUCTURE	NSWC ANALOGOUS LEVEL	PLANNING UNIT
COMMAND & DEPARTMENTS	CENTER LEVEL	COMMAND BOD & SECTOR
DIVISION	BUSINESS	SBU's & SSUs
BRANCH	OPERATIONAL	PRODUCT-LINE

**FIGURE 14. ANALOGOUS HIERARCHICAL PLANNING LEVELS**



**FIGURE 15. THE ORGANIZATION SYSTEM**  
(AFTER: REFERENCE 63, FIG. 1, P. 7)

consistency and simplicity to the planning process, and (c) provide a logical format for training and education in strategic planning. Appendix A contains the table of contents of this document and shows the extent of topics covered, the kinds of information and analyses performed, and the type of worksheets provided to executives and managers. Many of the strategic planning elements found in the Hax and Majluf process are contained in this document. But the staff did not adopt the formal 12-step integrative methodology.

The workbook was used by Sector and SBU managers to prepare for Cycle I. The document introduced the view of "NSWC as a System" (see Figure 15) and continued the education process by noting how strategic planning could help the organization. The organizational system was used to explain the relationship between NSWC's inputs, outputs, internal and external environments, and the strategic planning process. The new style of thinking was further exemplified in the document's statements. One, for example, stated "haphazard planning and decision-making can result in outputs that are too expensive, not what the customers want to buy, or not profitable for the organization. Strategic planning .... assists the organization in collecting data and assessing that data in

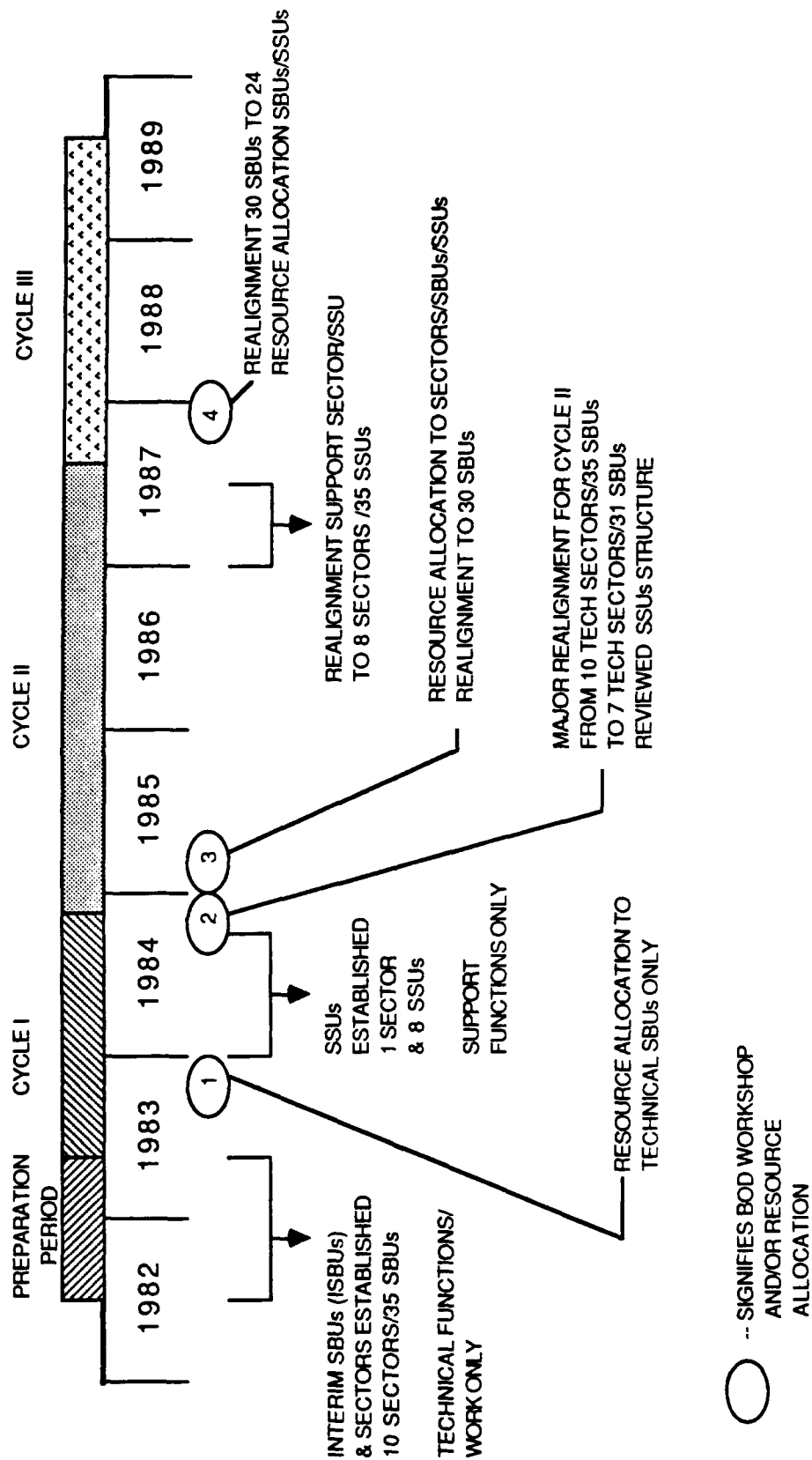
a logical way so the organization benefits and the outputs are the right ones."

Before discussing the Cycle I preparation period, we shall examine the issues and problems associated with identifying and establishing SBUs and SSUs. This area is extremely important because the segmentation of NSWC work in terms of business (SBUs) and support (SSUs) units is the cornerstone of corporate-style strategic planning. All activities and events of the three cycles are built around the SBU and SSU units.

### 5.3 Segmentation by SBUs, SSUs, and Sectors

This section addresses the major issues associated with the establishment of Sectors, SBUs, and SSUs. Figure 16 shows key periods and events. The focus will be on (a) initial SBU determination as a result of the Hax seminar, (b) Sectors and Interim Strategic Business Units (ISBUs) at the start of Cycle I, (c) introduction of the Strategic Support Unit (SSU), and (d) Sectors-SBUs-SSUs at the start of Cycle II.

The seminar by Professor Hax introduced government executives and managers to new concepts. The idea of



**FIGURE 16. SEGMENTATION INTO SBUs, SSUs, AND SECTORS BY MAJOR EVENTS**

segmenting organizations into strategic business units (SBUs) and sectors were new concepts which startled and amazed the seminar participants. The seminar was the beginning of a process to obtain executive and managerial buy-in to the SBU concept and work segmentation. NSWG was asked to determine "what business it was in?" using the following criteria for defining an SBU.<sup>64</sup>

- serves an external market
- has clear set of external competitors
- has control over its own destiny for
  - products to offer
  - how and when to go to market
  - where to obtain supplies
- performance is measurable as profit center.

It is atypical for a government research and development organization to have business units which meet this criteria.

As discussed in Chapter 1, very few federal agencies have control over their own destiny or performance measurable as a profit center. The differences between business and public sector role and mission become apparent here once again. It would be impossible for most government organizations to measure performance using corporate-style SBUs based upon the above business unit

selection criteria. The challenge for NSWC managers to be innovative with corporate-style strategic planning required approaches which were non-orthodox in the federal sector. Adopting the concept of SBUs and sectors was one of these. The modified SBU criteria selected by the staff for the development of an interim set of SBUs was:<sup>65</sup>

- "1. An SBU should facilitate good management, i.e., allow the SBU manager to deal effectively with the external market and customers and provide the necessary direction and coordination among the internal organizational components within the scope of the SBU to achieve common objectives;
2. An SBU should facilitate Center strategic management, portfolio management by the BOD. For example, the SBUs are used to define the Center's product line mix and resource allocation decision making;
3. An SBU should be comprised of a distinct set of products which are delivered to the Fleet;
4. An SBU should address a distinct market or set of clients/sponsors;
5. An SBU should be as independent as possible from a product-market point of view;
6. An SBU does not have to be independent from an internal point of view. SBUs may share resources to achieve economies of scale or scope; and
7. An SBU should interact with a defined community of prime defense contractors, support contractors, non-profits and other Navy Laboratories."

The goal was for each unit to have a distinctive line of business, identifiable product-line(s), customer markets and competitors.

Philosophically "an organization should be designed in such a way as to facilitate primarily the pursuit of its strategic commitment."<sup>66</sup> In following this Chandlerian principle of "structure follows strategy," the NSWC SBUs were first defined without consideration for the current organization chart. Separate groups tackled the problem of determining SBUs and their product lines. A product line was considered to be a class of equipment that performed certain specific functions. A product was defined as a specific piece of equipment within the product line. The business units were defined around the technical work or services performed by the Center. Support departments were not considered at this time. For the first cut performed at the Hax seminar, groups took both bottoms-up and top-down approaches and arrived at SBU lists that agreed in about 80% of the categories. During the next several months of preparation for strategic planning, the SBUs were consolidated into temporary units called Interim Strategic Business Units (ISBUs). The ISBUs were to be initial conditions or inputs to the Cycle I planning period.

As the education and team building process continued, responsibility for the SBUs was assigned to branch, division, and department managers much along the lines of Figure 3. These individuals required training before they could be principals in developing the process and materials. For information flow purposes and to facilitate management, various SBUs were consolidated into units called sectors. By the time the formal Cycle I preparation was scheduled to begin in April 1983, 10 Sector and 35 SBU assignments and definitions had been made. Appendix B is a list of these sectors and SBUs.

These units only addressed the technical work at the Center because staff planned to make the problem manageable by first developing technical SBUs and later support SSUs. Since the Center's products and services are R&D, not support services, this seemed logical. Support functions included Personnel, Finance, Procurement, Plant Development and Maintenance, Administration and Information Services, Computer and Information Systems, Corporate Planning Analysis and Evaluation, and Engineering and Information Services. Managers knew that support functions were absolutely essential for Center operations. Support departments supplied internal services to command and technical departments. From a management perspective NSWC viewed its support departments

as being on an equal footing with the technical departments. However, a shared perspective was that the Center's business was R&D and that the technical departments were the "raison d'etre" for NSWC. Support functions were expected to support; roughly 30% of the Center's work-years in support was required to make the organization function. Although not deliberate, developing the technical SBUs first ran counter to treating support departments equally from a managerial and status perspective. Not including support departments from the beginning created significant problems in the introduction of strategic planning and raised issues of trust. Had the Center not tried to make a resource allocation prior to establishing the SSUs, this problem might not have surfaced. But, one of the principle characteristics of NSWC is risk taking, and taking risk and being innovative involve making mistakes.

A second major issue developed over a dichotomy between the NSWC functional organization and the sector and business unit definitions. The staff knew that if SBUs were initially established based on the current organization's line authority chart there was a high probability that the planning process itself would degenerate to 'business as usual.' They purposely let the segmentation into SBUs and sectors develop without

consideration for the organization chart. This created a different lens with which to view NSWC's work. As a result, the organization's line authority did not match the units of work segmentation structure (Sectors/SBUs). Hax and Majluf discuss the significant ambiguity that arises regarding strategic planning and operational responsibilities when segmentation does not result in autonomous units. They suggest that considerable effort be made to resolve the dilemma between coexisting planning and operational organizations. Some movement of organizational units was made at NSWC. However, the NSWC organization was not significantly changed to bring the planning (SBU/Sector) and operational (Branch/Division/Department) structures into alignment. The staff was fully aware of the potential for tension and power struggles because each SBU manager worked with and attempted to manage people who did not report directly to him/her. They intended to use the concepts of dependency mapping (Reference 63) to identify matrix relationships and negotiate signed working agreements for strategic planning purposes.

The sector and SBU managers were responsible for generating plans for units of work spread all over the Center. Unless the sector and SBU leaders were the line or program manager for the units, they had no authority to

carry out their responsibilities. This became a big issue resulting in tension and frustration. The Center never gave the SBU managers the responsibility and commensurate authority needed to get their jobs done. Compromise and personal influence were the only means to carry out their planning responsibilities.

With frustration and conflict arising because of changes in operating mode [fundamental cultural changes], the Center did not want the major reorganization that would bring the organization chart into alignment with the sectors and SBUs. The trauma of potential major internal reorganization may have derailed the process of institutionalizing strategic planning at NSWC by shifting Center emphasis. A basic non-congruency was allowed to exist which seriously questioned the process' credibility. Once the seriousness and non-workability of the misalignment was recognized, corrective action was required in order to proceed with institutionalization. A corrective action, such as aligning sector and SBU leaders with the unit's line manager, was orders of magnitude easier to implement than a major reorganization.

Both of these difficulties surfaced explicitly during the Cycle I period with the attempt to allocate resources to SBUs. Cycle I was primarily an allocation of human

resources (work-years). How could work-years be allocated Center-wide to just the technical departments when the support departments made up about one-third of the Center? How could individuals be held responsible for generating plans which included units for which they had no authority? The strategic planning set-up was barely workable. Without major NSWC reorganization, management of the sectors and SBUs had to be given to the respective unit's line manager. The need for sector/SBU responsibility and authority drove the process of realignment. Those sectors and SBUs which happened to be aligned with a technical department and its division from the beginning of the process worked smoothly. In January 1984, the Center undertook an intensive effort (a) to correct the problem of not including support departments with the technical SBU development and (b) to realign the technical sectors/SBUs. The idea of Strategic Support Units (SSUs) was employed analogously to the SBU.<sup>67</sup> Eight SSUs were created and consolidated into one sector. It was thought that with one sector the Center could manage and strategically plan the support infrastructure as one unit. This did not work because the SSU contained disparate functions driven by separate sets of conditions. How does one tradeoff the supply function against the personnel function? The difficulty of planning for eight

major SSUs as one sector was a management nightmare and dictated reversion to several support sectors.

The single support sector was changed to eight support sectors comprised of 35 SSUs. By the fall of 1984, the technical sectors were realigned from 10 to 7 and SBUs from 35 to 31. Appendix B contains the listing of the sectors, SBUs, and SSUs used for allocation during Cycle II. At this point the sectors, SBUs, and SSUs were approximately 85% congruent with the organization structure and provided planning leaders with the necessary credibility to carry out planning responsibilities. However, as shown in Figure 16, some realignment still continued as the process was honed into finer operation.

Table 2 summarizes some observations of the institutionalization process.

**TABLE 2. OBSERVATIONS ON THE STRATEGIC PLANNING PROCESS**

OBSERVATIONS ON THE PLANNING PROCESS
<ol style="list-style-type: none"><li>1. WHEN INITIATING STRATEGIC PLANNING WITH NO PRIOR EXPERIENCE ALLOW SIGNIFICANT TIME FOR<ul style="list-style-type: none"><li>-- LEARNING STRATEGIC PLANNING TECHNIQUES &amp; PREPARING ORGANIZATION SPECIFIC MATERIALS</li><li>-- EDUCATING PARTICIPATING EXECUTIVES &amp; MANAGERS</li><li>-- TEAM &amp; CONSENSUS BUILDING</li></ul></li><li>2. LINE MANAGERS SHOULD DO THE PLANNING WITH MEANINGFUL PARTICIPATIVE AND INTERACTIVE ROLES IN THE PROCESS</li><li>3. STRATEGIC LEADERSHIP &amp; A STRONG EXECUTIVE PROCESS CHAMPION IS A NECESSITY</li><li>4. IDENTIFY &amp; RESOLVE NON-CONGRUENCIES BETWEEN ORGANIZATIONAL STRUCTURE &amp; STRATEGIC PLANNING QUICKLY</li><li>5. TECHNICAL &amp; SUPPORT ACTIVITIES ARE COUPLED FUNCTIONS &amp; THEIR WORK SEGMENTATION INTO SECTORS, SBUs, &amp; SSUs SHOULD BE PERFORMED JOINTLY FROM STRATEGIC PLANNING INITIATION</li></ol>

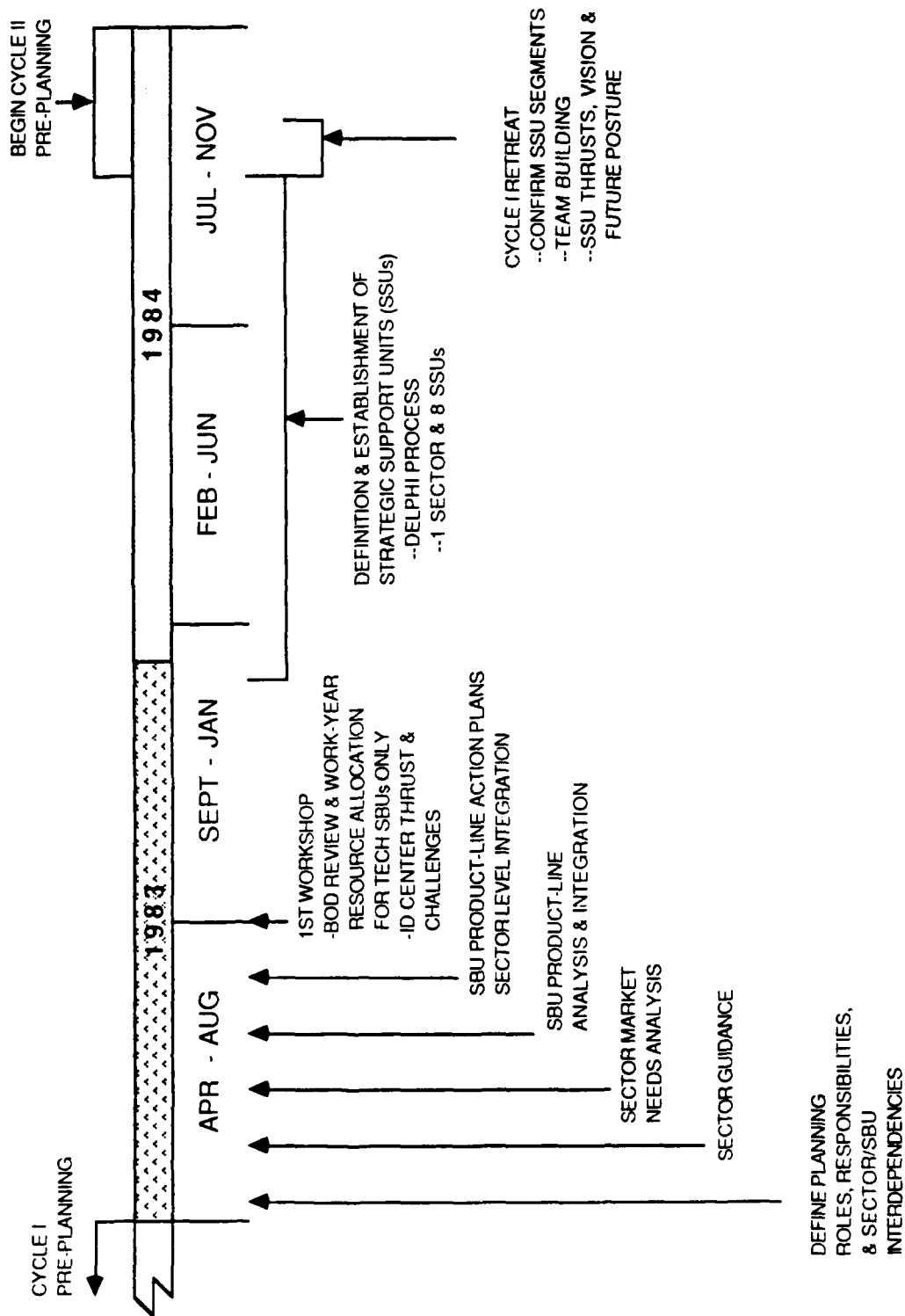
CHAPTER 6  
THE STRATEGIC PLANNING PROCESS OF CYCLE I  
APRIL 1983 TO NOVEMBER 1984

## 6.1 Cycle I Planning Process

The Cycle I period will be defined as April 1983 to November 1984. The objective of this period can be described as using a bottoms up process to determine "what is our business?" The methodology was to (a) generate proposals for segmentation of Center work into strategic units and sectors, (b) balance the Center's portfolio, and (c) identify Center-wide technical and management thrusts. The period can be characterized by four principle activities. They are:

1. Segmentation of technical work into SBUs and sectors using a "Hax-like" process to generate SBU proposals and consolidate to sectors;
2. Incorporation of support organizations into the process and their segmentation into SSUs;
3. A Board of Directors (BOD) retreat to determine technical SBUs and sectors, strategic technical and management thrusts, and to allocate work-years to the sectors and SBUs;
4. A Board of Directors (BOD) retreat to address support organization issues and determine support segmentation.

Figure 17 shows the major activities of the Cycle I period as a function of time. The conflict, ambiguity, frustration, and confusion arising from negotiating over shared resources and between technical and support organizations created a need for significant team building activities throughout this period.<sup>60</sup>



**FIGURE 17. CYCLE I PERIOD MAJOR ACTIVITIES**

Such activities were consciously integrated along with strategic planning education into the various strategic planning activity agendas. During the Cycle I period, the Center was not mature enough from a strategic planning perspective to march through a 12-step Hax and Majluf methodology. Before some activities like "creating the vision" or "preparing sector guidance for SBU managers" could be effectively completed, a degree of planning sophistication developed from experience was necessary. Mastering change within the Center to accomplish the above four activities was all that could be handled in parallel with operational commitments.

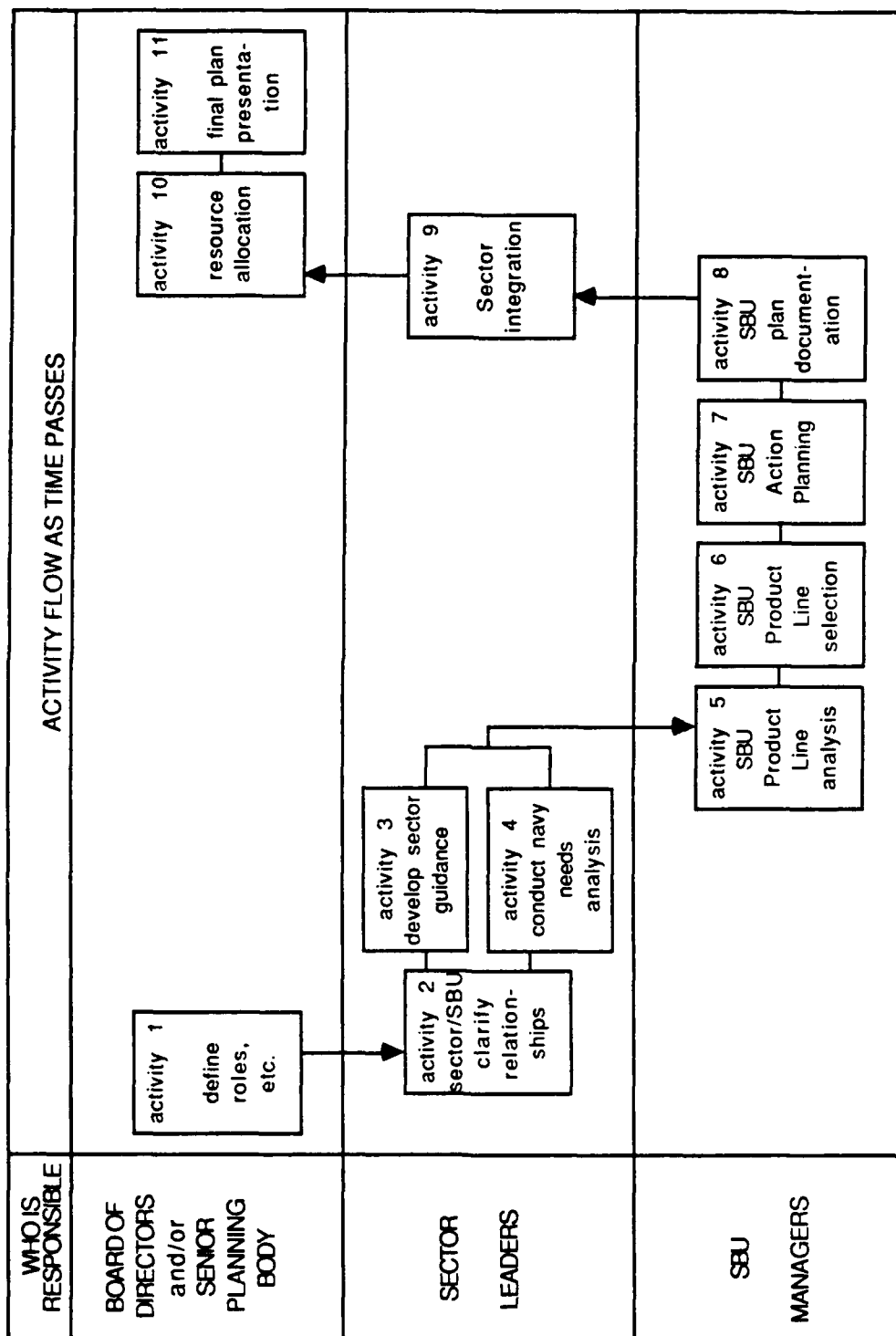
This section will focus on areas 1 and 3. Activities during this period followed the workbook, "A How to Do it Guide for Managers."<sup>63</sup> The objective was to accomplish 11 principle activities over a four-month period. These activities were:

<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>
1. Define planning roles and responsibilities	Sector Leaders SBU Managers
2. Clarify Sector & SBU and inter-dependencies	Sector Leaders SBU Managers
3. Develop Sector guidance for SBU planning	Sector Leaders

4.	Sector market needs analysis	SBU staff & Sector Leader
5.	SBU product line analysis	SBU Mgr.& staff
6.	SBU integrated product line analysis	SBU Mgr.& staff
7.	SBU product line action planning	SBU Mgr.& staff
8.	SBU plan documentation	SBU staff
9.	SBU integration at Sector level	Sector Leader & SBU Managers
10.	BOD review and resource allocation	BOD
11.	Final NSWC strategic plan presentation	All process participants

Figure 18 is a planning activity flow chart with hierarchical levels on the ordinate and activities or time on the abscissa. Note the similarity in Figure 18 to the Hax and Majluf methodology, Figure 6. There is not a one-to-one correspondence between NSWC planning activities and the Hax/Majluf methodology, but recall that Hax and Majluf offered the methodology as a general framework that could be modified to capture the idiosyncracies of the agency. Figure 18 does not adequately portray all the integration activities and iterations which actually occurred.

These activities commenced with the SBU and sector segmentation which sector leaders/SBU managers had



**FIGURE 18. NSW/C CYCLE I PLANNING ACTIVITY FLOW CHART**  
(SOURCE: REFERENCE 63, PP. 14.1 & 14.2)

identified as initial conditions or inputs. These results had been obtained during the Preparation for Planning period. The staff recognized that the specifics of these initial conditions would be changed as the process proceeded.

During activity one, **Defining Planning Roles and Responsibilities**, a set of planning responsibilities was presented for key groups:

- COMMAND (Commander & Technical Director)
- SENIOR PLANNING BODY (CO/TD + Tech Dept Heads)
- BOARD OF DIRECTORS
- SECTOR LEADERS
- SBU MANAGERS
- STRATEGIC PLANNING STAFF

[The most current view of specific planning responsibilities is listed in Appendix E.] The Senior Planning Body (SPB) was established for organizational purposes during Cycle I. The SPB was not used in subsequent cycles. Worksheets were filled out for (a) relationships among peers and for (b) sector leader and SBU manager role clarification. These were completed individually and discussed in groups to reach consensus on specific roles and relationships. We can see here the

interpersonal dynamics and team building nature of this exercise.

Activity two, **Clarifying Sector and SBU Inter-dependencies**, involved developing dependency maps for (a) the SBU product line and organization, and (b) the SBU market and sponsor. These were necessary because the process being employed at NSWCC created a strategic planning organization which "overlaid" the formal structural organization. Potential tensions and power struggles created by this arrangement needed to be identified and working agreements negotiated. Also, SBU competition for sponsor funding, which could be detrimental to the Center, needed to be identified. This required SBU managers to negotiate signed agreements and identify major issues for resolution. Note here the increased level of interpersonal communications and negotiating skills required for a positive outcome.

Activity two results when combined with the input of SBU initial conditions form a portion of the tasks of the Hax and Majluf step 1 result. A corporate philosophy statement was prepared (see Appendix C). The Center mission statement was assumed not to change. Thus, a Hax and Majluf-like step 1 "vision of the firm" representation was available for sector leaders and SBU managers.

Conceptually, the vision is suppose to communicate a statement of basic principles and a vision of future firm success. This was not the case for NSWC in Cycle I. We shall see this level of vision statement sophistication develop during Cycle II and be used by Command to start off Cycle III planning. The Hax/Majluf step 2, Strategic Posture and Planning Guidelines, which develops a set of guidelines to serve as challenges for the development of strategic proposals at the business and functional levels [SBU and Product-Line levels in NSWC's case] is analogous to NSWC activity three tasks. NSWC was not, at this point in time, prepared to conduct at the corporate level an integrated environmental scan and internal evaluation (scrutiny).

Activity three, **Developing Sector Guidance for SBU Planning**, was a complex set of sector leader activities which resulted in sector:

- mission and values
- long-term goals, roles, and objectives
- issues and thrusts
- constraints
- opportunities and challenges.

To arrive at this type of guidance the following were to be performed at the sector level:

- Washington environment and external factors assessment;
- operations assessment of contractors, suppliers, customers, and interest groups;
- internal NSWC strengths and weaknesses assessment;
- development of sector mission statement, values, and goals;
  - fundamental purpose & business sector must be in to achieve purpose;
  - definition of goals for next 10-20 years in management, organizational, and technology areas;
  - definition of objectives (steps) sector must take to reach the goals;
- definition of Center strategic thrusts for healthy marketplace position [Where to focus vision?];
- identification of SBU manager constraints, bounds, or limits to implement sector plan; and
- definition of opportunities and challenges.

Sample statements and worksheets were provided by the staff. This is more information than a typical department head (sector leader) would have readily available, especially the first time through strategic planning. Sector leaders serving as department heads whose

functional responsibility was the day-to-day operation of the department were not going to be able to do a thorough job themselves. Much of this effort was delegated within sectors and then integrated. The development of this type of information required a lot of communication within the sector leader's domain particularly among SBU leaders. Approximately three weeks were allowed to accomplish this task. Unless significant work had been completed prior to the three-week period, it would be impossible to produce any kind of comprehensive effort in the three weeks. Therefore sector results of varying quality were produced.

The purpose of activity four, **Sector Market Needs Analysis**, was to create a Navy Needs Catalogue at the sector level for use by SBU managers in developing product line plans. Staff provided some information guidelines and a nine-step process for each sector leader to use in constructing the Navy Needs Catalogue. A pilot needs study was performed by one department for a single warfare area (anti-submarine warfare) to assess the process and methodology to enable departments to think at the strategic level. The primary sources of data were experts on the subject matter and subject matter Navy planning documents. Each need identified was scored, ranked, and prioritized within the sector. Results were used to

evaluate current product lines and identify new product line opportunities. Approximately one month was allowed to complete activity four. The independently performed sector needs study results were of varying breadth, depth, and quality.

Because an integrated corporate level environmental scan was not completed, it was difficult to integrate the individual sector level Navy needs and derive a corporate view of Navy needs and priorities. This problem was widely recognized but not corrected until Cycle III. A Center Level Navy Needs and Priorities Assessment was performed for Cycle III. Activities three and four are similar to the activities of Hax/Majluf steps 3 and 4 combined.

Activities five through eight focussed on generating the SBU proposals that would eventually serve as final SBUs for the Center. The threefold criteria to be used for selecting final strategies was:

1. NAVY NEED:  
Is there an existing market for the product line?
2. CENTER/SECTOR OBJECTIVES:  
Is this strategy consistent with NSWC's mission responsibilities and long-term objectives?

3. RISK:

Is funding available and can we do it?  
What are the rewards for success?

Current and new product line analyses were performed to determine future industry attractiveness and present organizational capability. An SBU portfolio matrix mapping was used to determine an overall rating of SBU product lines. The matrix is given below:

		FUTURE INDUSTRY ATTRACTIVENESS			
		High	Medium	Low	
PRESENT ORGANIZATION CAPABILITY	High	:	:	:	:
	Medium	:	:	:	:
	Low	:	:	:	:

Future Industry Attractiveness was the numerical sum of a client score, an operating environment score, and a product line potential score. The matrix result was used to group product lines for action plan development. Before developing action plans at the SBU levels, the selected product lines were reviewed with sector leaders. The action plans were developed to address:

- organizational strengths and environmental opportunities that could be exploited to help accomplish the principal objective;
- changes with regard to human resources, marketing ability, capital investment, research and engineering development funds, organization structure or style;
- major task over next 5 to 7 years; and
- constraints, limitations, and environmental threats that must be overcome.

Successful long-term product objectives meant that the SBUs must have workable strategies in the areas of:

- skill resources
- facilities
- management and organization
- marketing
- technology development
- funding.

SBU managers were given a specific format in which to develop their proposal materials for presentation to the Senior Planning Board for review and evaluation. It consisted of:

1. SBU product line priorities and estimated manpower resources;
2. product lines rejected or divestitures planned;
3. product line action plan diagram.

Each SBU manager was required to develop (a) a plan containing a three-page executive summary with 3 or 4 pages of product line action plans, and (b) a formal view graph presentation.

Activities five through eight correspond to the combination of the Hax/Majluf formation of functional strategies [step 5], and the definition and evaluation of specific action programs [step 8].

Activity nine, **SBU Integration at Sector Level**, was to form the coherent and complete strategic plan for the sector through consolidation. Strategic postures for each sector were prepared addressing:

- major Center level thrust and issues;
- interrelationship between SBUs; and
- desired resource levels and SBU shares.

The Sector Leader would present his or her plan in a given format to the Senior Planning Body (SPB). The SPB would evaluate SBU plans for:

- SBU overall plan quality;

- product line criticality; and
- SBU ability to meet Navy needs, Center objectives and work balance, and risk.

Sector leaders were to provide an executive summary with SBU plans and a presentation. The presentation format was specified for all sectors to assist in reaching an evaluation and consensus. Even with these preparations the material generated was too voluminous to digest satisfactorily within scheduled time frames. It appeared that the sector leaders might be operating at too detailed a planning level. However, this level of operation was probably very valuable the first time through the process and the critical SBU/SSU formulation stages. Activity nine corresponds to the Hax/Majluf consolidation of business and functional strategies (step 6) and the definition and evaluation of specific action programs at the functional level (step 7).

Activities ten and eleven, **BOD Review and Resource Allocation**, were aimed at accomplishing the following:

- evaluation of sector and SBU strategic plan proposals;
- establishment of the Center's strategic posture;
- sector product line mix definition; and
- allocation of Center human resources (work-years) by sector for the next 2 through 6 years.

These activities were to be accomplished in a 5-day retreat having three phases. Phase 1 was the presentation and evaluation of strategic proposals. Phase 2 was the balancing of the Center portfolio including strategic thrusts and posture for the next 10-15 years. Phase 3 was the setting of sector resource targets over a 2 to 6 year period. These activities correspond to Hax/Majluf steps 9 through 12. Budgeting from the perspective of an industrial firm was not an issue in this process. The only critical resources to allocate at this point in time were work-years.

## 6.2 Cycle I Summary

In summary, the planning portion of Cycle I did segment the technical work into a portfolio of sectors and SBUs as the result of a detailed formal product line (PL), SBU, and sector proposal generation and evaluation process. It developed specific strategies at the SBU and sector levels based upon value added to the Navy, human resource cost to NSWC, and an assessment of the risks of completion. Fourteen broad<sup>19,57,60</sup> technical and managerial areas needing greater emphasis were identified. These

were called 'Center thrusts.' In effect, a level of prioritization of NSWC's future work efforts was achieved. A "best set" of product lines integrated into SBUs and sectors was selected by the Center, and human resources were allocated to the sectors and SBUs for fiscal years 1983 to 1990.

Probably one of the most powerful workshops was the one in which participants were required to take a clean sheet of paper and develop NSWC SBUs. Recall, however, that this was a "zero-sum game" with a Center work-year cap of 5000. The work-year cap was one of the most significant driving forces in the process. The sector leaders were now put in the position of department heads who had to defend the particular activities for which they were held directly accountable. This work-year cap was a key factor in the length of time it took [i.e., until Cycle III] to develop strategic thinking for corporate interests, strategic management practices, and a strategic and tactical plan. Others contemplating strategic planning should beware of this issue.

There was an increase in communication between all management levels as a result of this interactive process.

The BOD members who were sector leaders had an active participative role in the strategic options definition and in strategy development. But the participation of the division and branch heads was limited to the sector and lower levels. This probably had a negative effect on obtaining strong division and branch head buy-in early on, and became evident when SBU managers were asked to present their planning results for evaluation and ranking in the 15 minutes allotted each at the activity 10 retreat. It took until Cycle III to try to rectify this source of SBU manager frustration. It is extremely important to get SBU managers at the division, branch, and program manager levels involved from the beginning of the process in what they consider a meaningful way.

During Cycle I, the Center developed an increased level of consciousness for (a) the need for a command vision to start strategic planning cycles, (b) the need to integrate other resources categories into the planning allocation process, (c) the value of having corporate level activities like Navy needs and prioritization, and (d) a better understanding from a corporate perspective of the work performed at NSWC. Department heads and SBU managers developed a better appreciation of the relationship of the diverse technical work to the Center's mission. Both support department heads and technical

department heads obtained a better appreciation for each other's work and the problems each experienced in getting it accomplished. This increased level of communication provided benefits which were not directly measurable. Thesis interviews verified that employees believed that improved communications had a positive effect on NSWC's productivity and on its ability to realize its mission.

The fact that the Center had no management information systems or historical data bases for analysis and tracking of the strategic planning segmentation was readily apparent. SBU and sector data had to be extracted by modification to existing data files wherever possible in order to compute work years and financial data. New data base capabilities had to be built and procedures established to link relevant documents to the developing strategic planning process. Some of these efforts included (a) coding incoming funds to sectors and SBUs and (b) getting sector and SBU identifications placed on Center tasks documents [DD 1498]. Efforts were begun during Cycle I to correct these problems. By Cycle III, SBU codes were tied to job order numbers and DD1498s. Public sector organizations undertaking strategic planning should include the dimension of strategic planning data base/information requirements in their initial planning.

The difficulty of not having congruence between the formal organizational structure and the strategic planning structure was a more serious issue. The overlapping structures were too complex to deal with operationally because the Center did not have the capability to operate uniformly in a matrix management situation. The non-congruent situation forced the entire Center to try "thinking matrix." At the same time, to ensure successful operation the need to get the responsibility for planning aligned to the line manager function became more acute. In the fall of 1984, a proposed realignment was made and approved (see Appendix B for the mapping from 35/10 SBUs/sectors to 31/7 SBUs/sectors with alignment to departments and divisions). Even with this change, 100% alignment was not achieved. Public sector organizations have to recognize and accept the possibility that their organizational structures and strategic planning structures may be out of alignment. Contingency plans have to be developed.

The product line evaluation process at NSWC led to a restructuring of fragmented protection work efforts over the next 6 to 12 months. As a direct result of this effort, a new technical department -- the Protection Department -- was formed in 1985. This department pulled the protection work elements into a focussed and cohesive

group which experienced increased strength from synergistic effects.

Technology was considered a strategic variable. For Cycle I, a technology sector was formed and key technologies were assigned as SBUs [see Appendix B, Cycle I Sectors and SBUs]. The Research Department had responsibility for the technology sector and had to plan across the Center organization because technology work in an R&D Center typically is performed in many departments.

A summary of the major tasks undertaken during this technical SBU/sector activity is shown in Figure 19. We can see that even though it was not NSWC's intent to follow identically the 12-step Hax/Majluf process [compare Figures 6 and 18 and Figures 7 and 19], many of the same tasks described by Hax and Majluf for a formal strategic planning process were performed. The primary areas not included by NSWC were the vision of the firm (step 1), strategic posture and planning guidelines (step 2), performance measurements for management control (step 9), and budgeting tasks (steps 10, 11, and 12).

After a short period of rest from strategic planning, the Center staff facilitated a six-month effort to address

NSWC CYCLE I PLANNING CHARACTERIZED AS BOTTOMS-UP PORTFOLIO BALANCING TECHNICAL SECTORS/SBUS ONLY

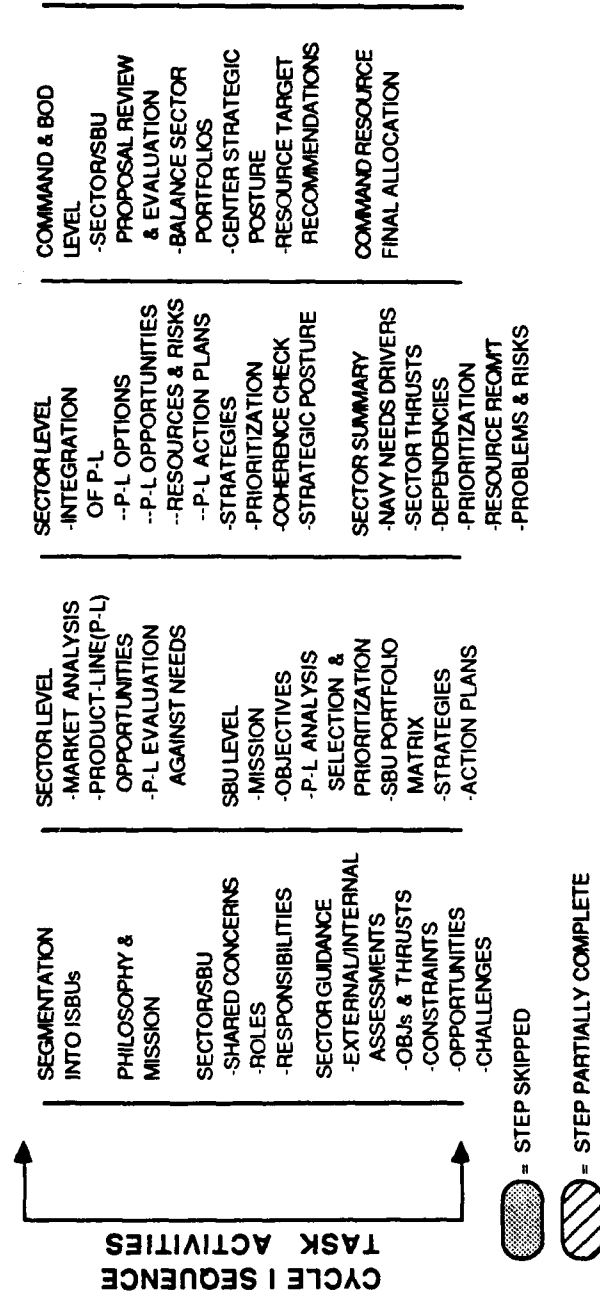
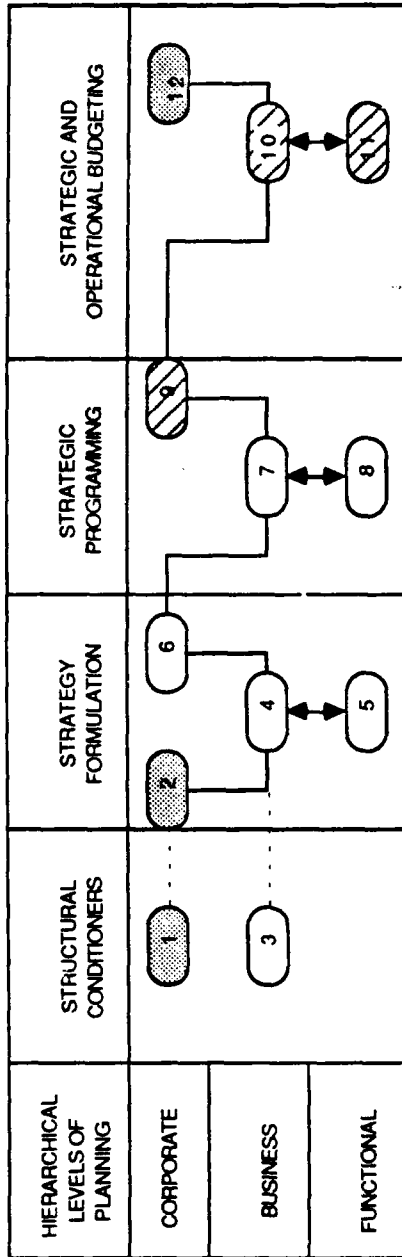


FIGURE 19. PLANNING TASKS SEQUENCE ACTIVITIES FOR THE CYCLE I PERIOD

the support departments. The Delphi technique<sup>2,61</sup> had been successfully employed by the staff in the SBU/sector portion. In tackling the support effort, they started by using a Delphi process to (a) identify issues, (b) develop issues, and (c) identify areas of disagreement. Anonymous questionnaires were filled out, results were merged and feedback given to participants; then a second questionnaire was used to refine the issues, again with results merged and feedback given. These results then served as starting points for discussion at meetings aimed at building consensus and agreement. Nominal Group Techniques<sup>62</sup> allowed for structuring small group meetings to pool individual judgments effectively where uncertainty and disagreement exist about the nature of problems and their solutions. This technique was applied during discussion group activities. Results of this process showed that:

- the dual roles service departments had of service to the Center and regulatory function mandated by law presented unique planning challenges;
- the government's commercial activities (CA) thrust could have major impacts on any decisions arrived at during strategic planning;
- the dual site operation [White Oak, MD & Dahlgren, VA] of the Center created particular management problems for support departments;
- communications between the Technical and Support Departments needed improvement; and

- the recent addition of tenant activities at NSWC sites created an unplanned increase in workload for the support departments.

These and other issues were addressed and a single support sector and eight support units were defined. The support sector contained very diverse functions. Therefore the sector leader assigned was a senior executive from Command staff [Associate Technical Director Evaluation] rather than one of the support department heads. Product lines for each unit were defined and sector thrust was developed. (Appendix B lists the sector and its eight units which became known as Strategic Support Units (SSUs).) A BOD retreat was held to discuss results of this support planning period and to confirm the support segmentation. The retreat provided a vehicle for team building between the technical and support side of the Center. Discussions blended support resource requirements, support thrusts, and support's vision of the future with earlier technical SBU results.

With the Cycle I period ending the Center was well along the road to developing and institutionalizing a strategic planning process. During this period the Center's senior executives were involved at the product line level for approval and the SBU/SSU level for the allocation of resources. Because of the amount of time

and energy required, the level of detail at which these executives should be operating during a strategic planning cycle was about to come into question. However, no written plan was published as a result of the efforts of this period. Because education, segmentation, and start-up consumed so much energy, the Center had not yet begun to focus on the concepts of implementation, evaluation, and control using strategic planning and strategic management techniques. Table 3 summarizes some observations that can be made for Cycle I.

**TABLE 3. LESSONS LEARNED FROM STRATEGIC PLANNING**

LESSONS LEARNED FROM STRATEGIC PLANNING
<ol style="list-style-type: none"><li>1. EMPHASIZE FUNDAMENTAL STRATEGIC MANAGEMENT PRINCIPLES FROM THE BEGINNING</li><li>2. MAKE THE OBTAINING OF BUY-IN TO THE COLLECTIVE JUDGMENT OF THE AGENCY ONE OF THE HIGHEST PRIORITIES IN ORDER TO AVOID A CONFLICT IN OBJECTIVES WITH THE PARTICULAR INTEREST OF THE DEPARTMENTS</li><li>3. MAXIMIZE THE PARTICIPATION OF DIVISION/BRANCH MANAGERS IN THE STRATEGIC OPTIONS DEVELOPMENT AND STRATEGY FORMULATION</li><li>4. DEVELOP A COMMAND VISION OF THE ORGANIZATION'S FUTURE AS INPUT TO THE 1ST CYCLE, PERFORM CORPORATE LEVEL NEEDS &amp; PRIORITIES ANALYSES, AND PROVIDE AS GUIDANCE</li><li>5. PLAN TO DEVELOP STRATEGIC PLANNING DATA BASES &amp; MANAGEMENT INFORMATION SYSTEMS KEYED TO INDIVIDUAL ORGANIZATION REQUIREMENTS</li><li>6. DEVELOP &amp; LINK STRATEGIC AND TACTICAL PLANS WITH MANAGEMENT CONTROL AND EVALUATION PROCESSES</li></ol>

CHAPTER 7  
THE STRATEGIC PLANNING PROCESS OF CYCLE II  
NOVEMBER 1984 TO JULY 1987

## 7.1 Cycle II Planning Process

The Cycle II period will be defined as November 1984 to July 1987. The objective of this period was to take a "Center corporate perspective" and continue the development and institutionalization of the NSWC strategic planning process. Cycle II was built on Cycle I results. The SBUs, SSUs, and sectors defined as a result of the Cycle I period served as input data. The staff prepared a "Strategic Planning Guide for the 1985 Planning Cycle"<sup>68</sup> to provide managers with a single set of procedures for this cycle. This section of the thesis primarily summarizes these procedures. As the staff did in its first workbook,<sup>63</sup> this planning document contained worksheets and techniques that added consistency to the process and a logical format for training and education in strategic planning. It was significantly streamlined in comparison to Reference 63. However, some new ideas were introduced and shifts in the philosophical thinking of the staff became evident. For example, staff said:<sup>69</sup>

"Strategic planning involves forecasting future Navy/client needs and demands for services, assessing the present and future operating environment, and assessing the Center's capabilities needed to move

the organization from its present position to its desired position in the future, including the costs of such a move in terms of human, physical, organizational, financial, and technological capabilities resources."

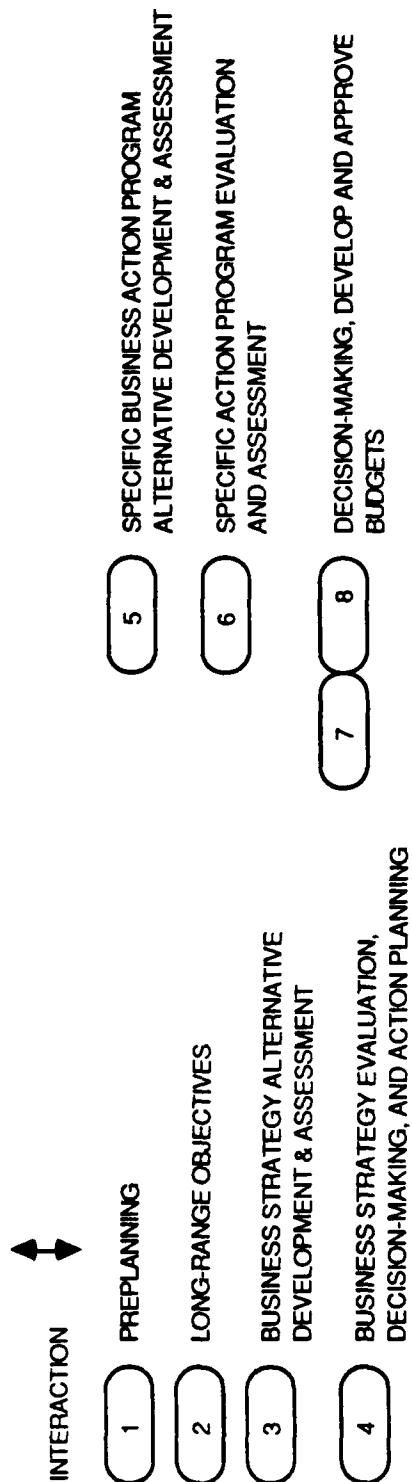
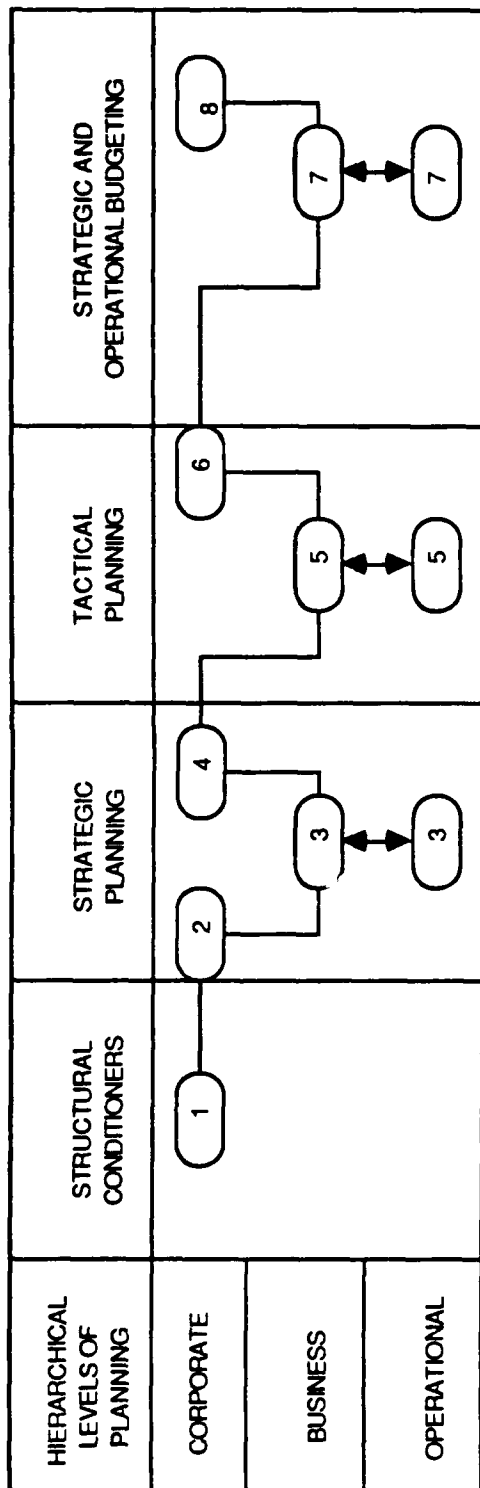
There is an added emphasis on the (a) 'vision of success' called 'position in the future' and (b) resource cost based on five generic strategic resources. The long-term future meant 10 to 20 or more years in this case. It was clear staff believed that "management needs to formulate a strategic plan for rationally allocating these generic strategic resources (including the distribution of new and the redistribution of existing resources) among the organization's businesses."<sup>70</sup> Achievement of this type of allocation based upon a strategic planning process would mean the organization was operating in an advanced strategic management stratum.

In thinking of how strategic planning fit into individual group plans, staff stated:<sup>69</sup>

"The strategic planning activities are sequenced to provide a logical framework necessary for all managers at the various levels in the Center to develop their plans, which are a part of the Center's

coordinated network of plans. Strategic planning is not an end in itself; it is used to assist managers in making effective decisions that determine the products and services offered, the clients/sponsors supported, and how best to develop their organization over time to implement those products-, service-, and client-support decisions."

If strategic planning was not to be an end in itself but a way to assist Center managers in developing plans, then those plans which made up the 'coordinated network of plans' must be part of or coupled to the process. The staff's view of a formal Center comprehensive planning process to achieve this is shown in Figure 20. Note the resemblance to the Hax and Majluf methodology, Figure 6. Because the strategic plans themselves do not contain sufficient detail for day-to-day or near-term operations, more detailed tactical plans had to be formulated at the business and operational levels of the organization. The tactical plans would detail (a) specific projects or programs in which the organization would engage, (b) the tasks to be performed, (c) resource budgets assigned, and (d) schedules and milestones. The strategic plan phase of the comprehensive planning process was seen as supplying sufficient guidance and framing to provide input to tactical program planning and budgeting for the



**FIGURE 20. A FORMAL CENTER COMPREHENSIVE PLANNING PROCESS**  
(SOURCE: REFERENCE 68, P. A-12)

operational level of the organization. The maturing of the thought processes of the staff is evident.

With this change in thought process as background, we will examine Cycle II. Figure 21 shows the major activities of the Cycle II period as a function of time. This period is characterized by four principle activities. They are:

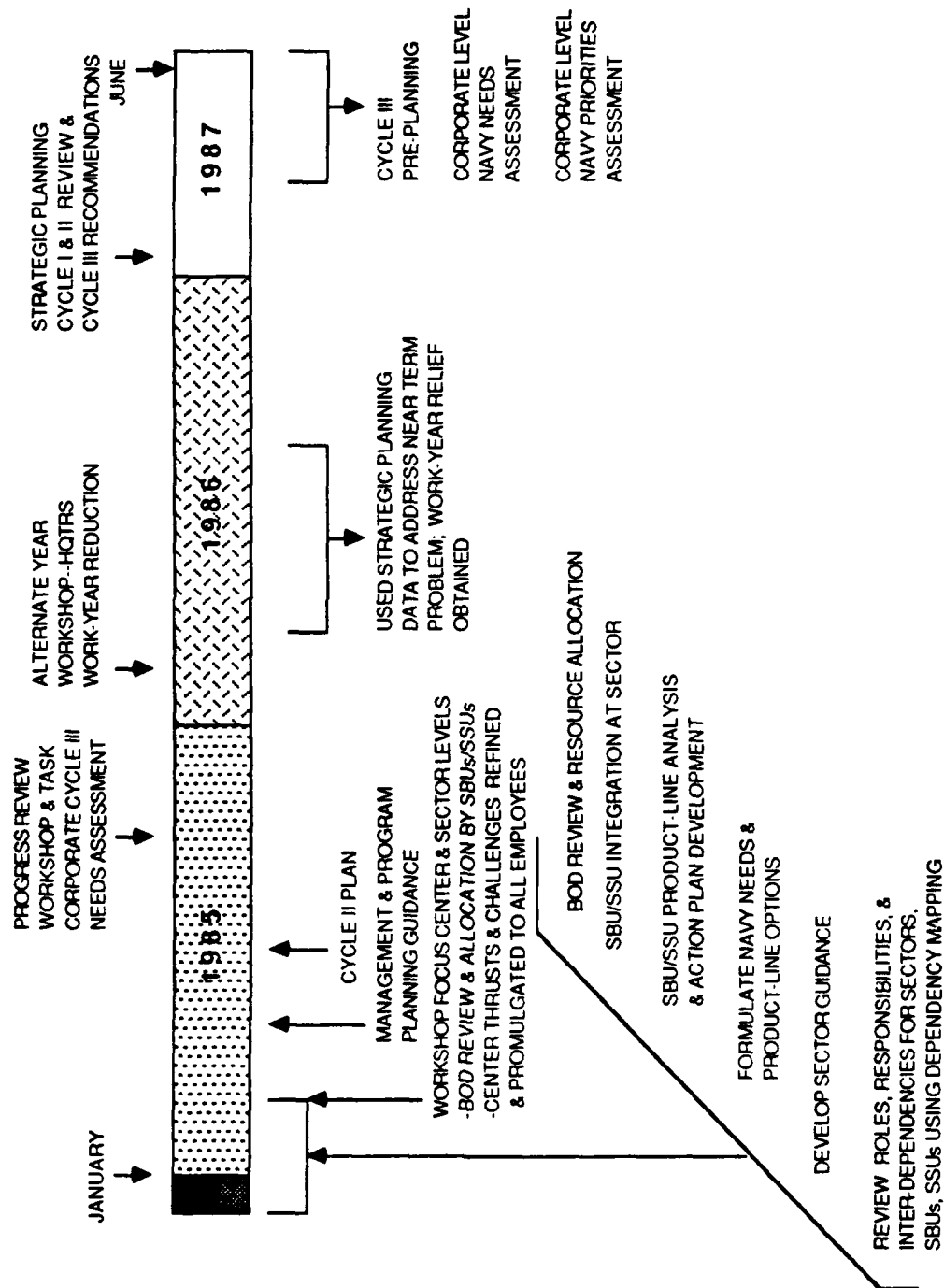
1. a five and one-half month period of developing a Center strategic plan culminating with a BOD workshop for evaluation, approval, and resource allocation;
2. a BOD retreat to review progress on plans and thrusts approximately seven months after allocation;
3. a BOD alternate year workshop;
4. a period designated Cycle IIA (but not a strategic planning cycle) to respond to an 'effective immediately' externally imposed major resource constraint.

This section will focus on area 1. The objective was to accomplish nine activities in four phases over a five and one-half month period. They were:

Phase 1. PREPARATION FOR SBU/SSU PLANNING

RESPONSIBILITY

- |   |  |
|---|--|
| 1. Define planning roles, responsibilities, and interdependencies | Sector leaders<br>sector/SBU/SSU<br>& SBU/SSU Mgr. |
|---|--|



**FIGURE 21. CYCLE II PERIOD MAJOR ACTIVITIES**

- |    |  |                               |
|----|--|-------------------------------|
| 2. | Develop sector guidance For SBU/SSU planning   | BOD & sector leaders          |
| 3. | Develop Navy needs and formulate product lines | Sector leaders & SBU/SSU Mgr. |

Phase 2. SBU/SSU PLANNING PROCEDURES

- |    |   |               |
|----|---|---------------|
| 4. | SBU/SSU product-line options analysis & selection | SBU/SSU Mgr.  |
| 5. | SBU/SSU product-line action planning              | SBU/SSU Mgrs. |
| 6. | SBU/SSU plan documentation                        | SBU/SSU staff |

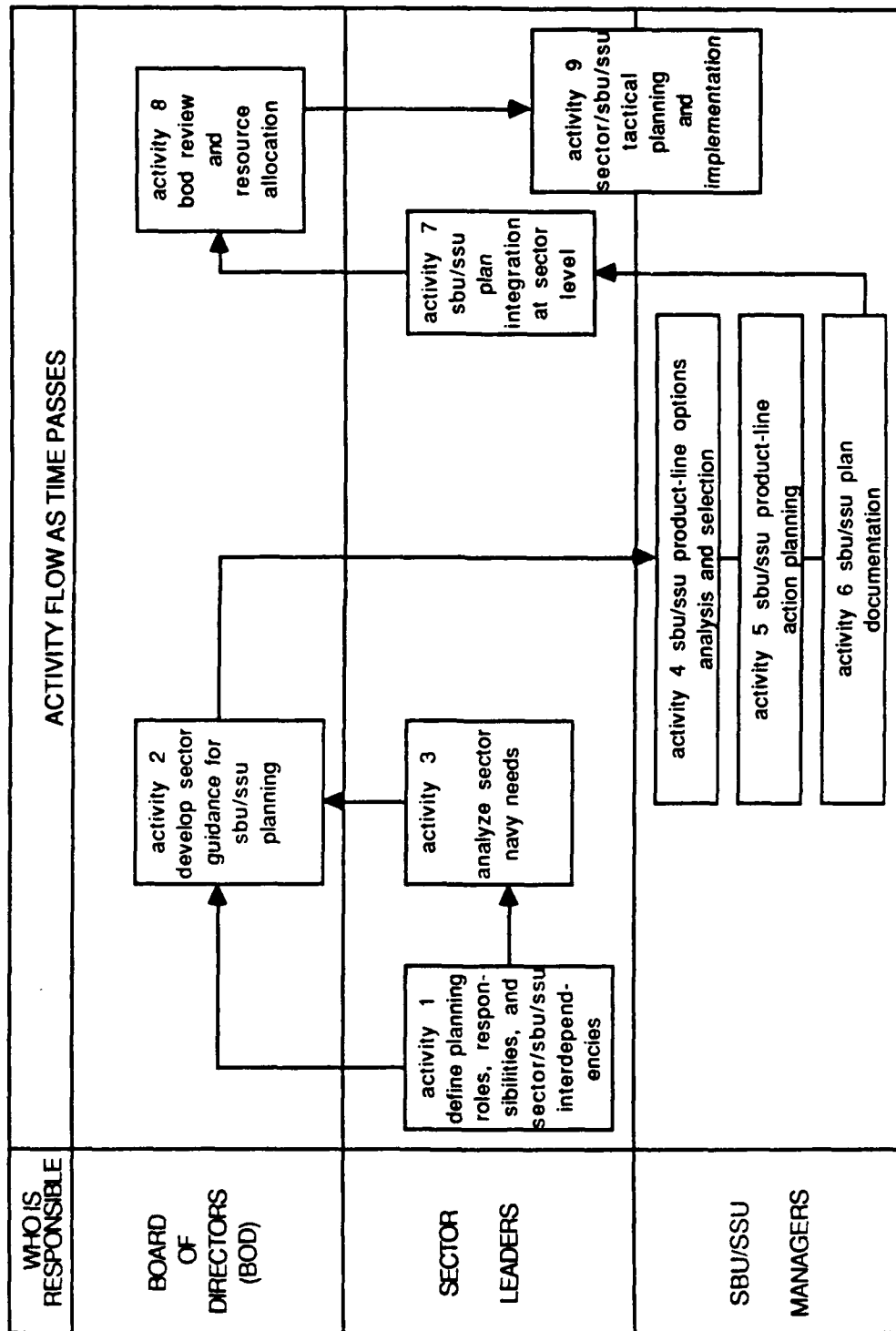
Phase 3. SECTOR PLANNING

- |    |  |                               |
|----|--|-------------------------------|
| 7. | SBU/SSU plan integration at sector level | Sector leaders & SBU/SSU Mgr. |
| 8. | BOD review and resource allocation       | BOD & sector leaders          |

Phase 4. TACTICAL PLANNING AND IMPLEMENTATION

- |    |   |                              |
|----|---|------------------------------|
| 9. | Sector/SBU/SSU tactical planning and implementation | All mgrs. & key stakeholders |
|----|---|------------------------------|

Figure 22 shows the Cycle II activity flow chart with hierarchical levels.



**FIGURE 22. NSWC CYCLE II PLANNING ACTIVITY FLOW CHART**  
(SOURCE: REFERENCE 68, P. vii)

Recall that the technical SBUs and the support SSUs were being restructured at the conclusion of the Cycle I period to bring the strategic planning structure and the organization's formal structure more into alignment. This realigned SBU/SSU/Sector structure shown in Appendix B was the initial condition used at the start of Cycle II.

During activity one of Phase 1, the Command (CO & TD), Board of Directors (BOD), SBU & SSU managers, sector leaders, and staff reviewed their planning roles and responsibilities.

Sector leaders and SBU/SSU managers had to negotiate and reach a consensus on their working relationship during the planning cycle. Sector leaders had to agree among themselves on their individual roles because sector leader planning responsibilities still crossed formal organizational boundaries. The technique of using SBU/SSU product line and organization dependency maps was employed. These activities are analogous to tasks performed in the Hax and Majluf methodology step 1. The vision portion was developed using the Delphi technique to reach consensus. At a very high level the vision addressed (a) the full spectrum of Center efforts (broad-based), (b) the desire to have a work balance between the technology base, systems development, procurement, and in-

service support, (c) the desire to be responsible versus reactive to sponsors, (d) the difficulty of growing in the technology areas, and (e) a cap of 5000 on the Center's full-time permanent employees. A formal written vision was not promulgated during Cycle II.

However, the Center did develop a consensus-driven equivalent to a Center vision, posture, global strategy, and thrusts. This consensus on management and program planning guidance<sup>71</sup> was accomplished at the Cycle II workshop which concluded the five and one-half month period of planning. The results were subsequently promulgated widely<sup>72</sup> throughout the Center. Employees who were not fully involved in the strategic planning process became confused and frustrated over its content. They did not know how to integrate this planning posture and guidance message into their understanding of the Center. They fulfilled the adage 'No matter how much communication an organization has, it never has enough.' Clearly, it was a major accomplishment and a powerful step for NSWC to get BOD consensus on program planning guidance and to publish NSWC's values, vision, and thrusts to all hands.

The Hax and Majluf process sequence (see Figure 6) would show this program planning guidance as input to SBU and SSU managers for the development of strategies and

action plans at the business and functional levels. The benefits of that sequencing were not achieved in Cycle II. However, one must not overlook the significant and unmeasurable positive value for the Center of team building a BOD whose members could then take a stronger corporate perspective. This was an example of strategic leadership in action. It was later said: "It was mainly because of their [TD and CO] guidance and insistence that we developed a set of goals, challenges, and management principles worthy of each NSWC employee."<sup>71</sup>

Activity two, Developing Sector Guidance for SBU/SSU Planning, was a sector leader activity with BOD concurrence to ensure the corporate view. As with Cycle I, it is analogous to part of the activities of the Hax and Majluf step 2. The sector leader's guidance contained:

- a. Mission and Goals - The mission answers the question 'Why do we exist?' and the goals statement answers the question 'What do we want to become?'
- b. Planning Objectives - These answer the question 'What steps must we take to reach our goals?'
- c. Thrusts - These answer the question 'Where should we focus our vision as we build our plans?'
- d. Constraints - These bind the financial and resource capabilities of the organization. They are particularly important when selecting and prioritizing product-line alternatives.

- e. Known Opportunities & Challenges - These provide new product line prospects and integrate SBU/SSU results with corporate challenges.

Activity three, **Navy Needs and Formulating Product-line Options**, was a sector level activity primarily orientated toward the technical SBUs. Staff provided a suggested 9-step process to develop a sector level Navy Needs Catalogue for the SBUs. Four levels of needs were suggested: (a) Navy mission needs to accomplish national objectives, (b) capability needs of the operational Navy, (c) system acquisition needs to satisfy higher level needs, and (d) product or service needs to satisfy acquisition needs. The mission needs, capability needs, and acquisition needs would be specified by sources external to the Center in high level Navy planning documents. Each sector derived its own needs catalogue using subject matter experts and navy documents. Needs were rated and ranked by the sector/SBU groups for prioritization. Using the Navy Needs Catalogue and sector guidance, the SBU manager derived a list of potential product-line opportunities. The SBU managers formulated a mission statement and set of goals. With SBU mission, goals, and Navy needs as a basis the product line opportunities were prioritized by importance for further product line analysis.

Once again, it was not possible to integrate the various sector needs catalogues to get a top level coherent view of what 'the Navy' thought its needs were. The sector lists were of various quality depending on the effort of the individual group. Also, there was no way of knowing, for instance, whether the sector-defined prioritization of Navy needs would relate to what higher level Navy officials and sponsors believed. During this portion of the Cycle II process, the Center recognized that a NSWC corporate level Navy Needs and Priorities Assessment was necessary. At the BOD plans and thrust review in September 1985, Command tasked its newly established Surface Warfare Analysis Office to prepare such an analysis for the next planning cycle.

NSWC activities two and three combined are analogous to the Hax and Majluf Mission of the Business (step 3) and Formulation of Business Strategy (step 4).

Phase 2, **SBU/SSU Planning Procedures**, which included activities four, five, and six is analogous to the combined tasks of Hax and Majluf step 5 [formulation of functional strategy] and step 8 [definition and evaluation of specific action programs at the functional level].

Activity four, **Product-line Options Analysis and Selection**, addressed the proper mix of product-lines and the allocation of the SBU/SSU resources among that mix. The SBU/SSU long-range objectives and an investment strategy were derived during this activity. A six-step procedure was proposed by the staff. Product lines were evaluated and ranked as to the client or sponsor benefits they could deliver. Priorities were assigned for resource allocation. Critical external and internal factors were identified (factors in the organization's environment that must be addressed for the achievement of its long-range goals and specific product-line objectives). The six generic categories of exogenous factors were: (1) command authority, (2) client needs, (3) client programmatic factors, (4) client characteristics, (5) supplier factors, and (6) general environment. It was assumed that these external factors were essentially uncontrollable by NSWC. The five categories of internal success factors were:

<u>Human Resources</u>	skills, capacity, productivity, sustainability
<u>Physical Resources</u>	adequacy and availability of facilities, equipment, tools, etc.
<u>Organizational Resources</u>	quality control system, budget management systems, incentive & reward systems, management effectiveness systems

Financial  
Resources

overhead funds, IR/IED funds,  
travel funds

Technological  
Capabilities

business area experience,  
production capabilities, client  
interactions, adequacy of  
business area technology base

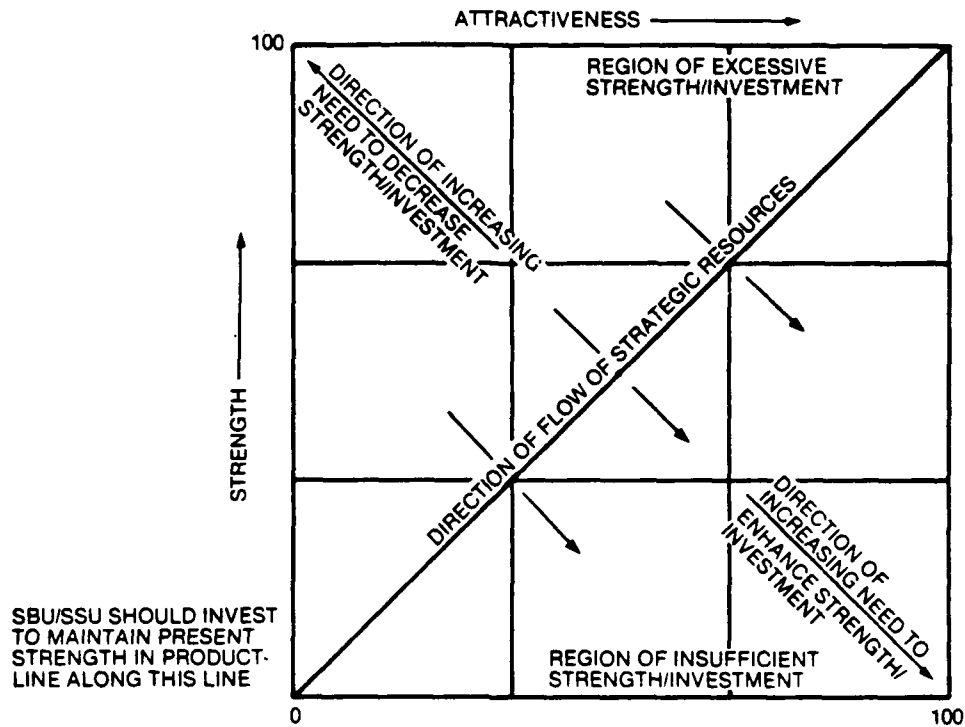
It was assumed that these internal factors were controllable by NSWG regarding their deployment to achieve product-line objectives. Using external and internal factors, an assessment was made at the SBU/SSU level of product line attractiveness and strengths. It examined the product line's strength in the categories for achieving the product line's objectives and the SBU/SSU long-range goals. The attractiveness of a product line was related to the level of support offered by the product line environment for achieving the SBU/SSU long-range goals. The strength of a product line was the level of capability that it possessed in total resources or in each category of resources for achieving the product line's objectives and the SBU/SSU long-range goals. Each factor was given a numerical importance weight and an attractiveness score or strength score. A weighted average was used to obtain the final score. Investment strategy implications were determined from these results

by using an attractiveness-strength matrix. Figure 23 shows the matrix concept used.

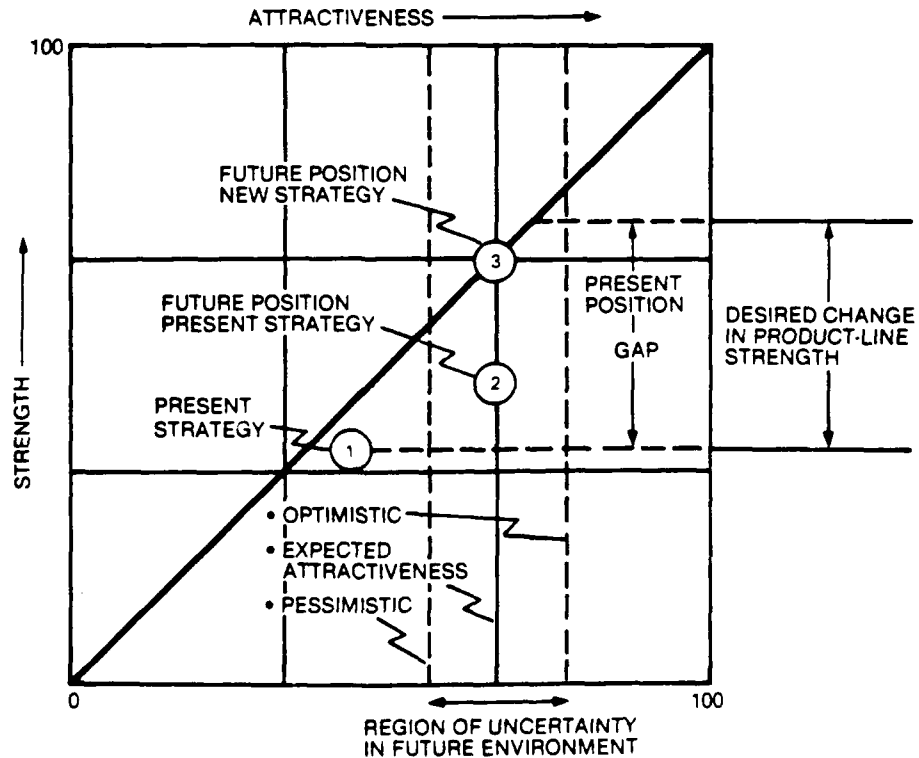
The SBU/SSU fundamental investment strategy was to seek product line strength equal to attractiveness by shifting resources from the less attractive to the more attractive product lines. The change in product line strength can be determined from the matrix. Figure 24 shows the relationship between the attractiveness-strengths matrix and investment strategy.

At this point SBU/SSU managers had identified and characterized the present and future states of the critical external and internal success factors necessary for achieving the SBU/SSU and product line long-range goals and objectives.

Activity five, **SBU/SSU Product Line Action Planning**, focussed on actual product line strategy formulation through broad action plan development. The desired outcome was to develop a product line strategy and set of broad actions that would change the internal factor strength from its current value to the desired future value at a minimal cost. This was accomplished by developing an ordered set of broad action options for each critical factor. A modified Options Profile Method was



**FIGURE 23. PRODUCT-LINE ATTRACTIVENESS-STRENGTH MATRIX**  
(SOURCE: REFERENCE 68, P. 4-12)



**FIGURE 24. THE ATTRACTIVENESS-STRENGTH MATRIX & INVESTMENT STRATEGY**  
(SOURCE: REFERENCE 68, P. 4-14)

used to assist in the strategy design process. Managers tested for interdependence how a choice in one broadaction in a critical factor restricted the choice of a broad action in a second critical factor. Broad action plans and product line strategies were communicated using a PERT or CPM-type network. Appendix D illustrates the product line broad action plan diagram.

Activity six, **SBU/SSU Plan Documentation**, provided format guidelines for an executive overview. Use of these guidelines provided structure and uniformity for the BOD review, evaluation, and approval. Appendix D illustrates the format.

Activity seven, **SBU/SSU Plan Integration at Sector Level**, was aimed at developing the coherent sector portions of the strategic plan. Three steps were followed:

- a. presentation and review of individual SBU/SSU plans by managers to the sector leader;
- b. revisiting the sector strategic posture developed in activity 3 for further development of Center-level thrust and issues, clarification of inter-relationships between SBUs/SSUs, and review of tentative resource level with SBU/SSU shares;
- c. identification of corrective actions to complete SBU/SSU plans.

This integration took place within the perspective of the three BOD criteria for assessment: SBU/SSU overall plan quality, product line criticality, and SBU/SSU plan effectiveness. The sector's [SBU/SSU collective plans] ability to meet Navy needs and Center objectives was examined based on eight factors:

1. Specific Navy needs addressed;
2. Major sector thrust identified;
3. Sector contribution from each SBU/SSU;
4. SBU/SSU interrelationships & inter-sector linkages;
5. Sector resource requirements (five generic areas);
6. Strategies to achieve sector goals;
7. Unresolved issues;
8. Original activity-3-derived sector guidance.

A Sector Summary Plan consisting of presentation graphics and written summary was prepared for the BOD in a prescribed format. The contents covered key Navy needs, needs evaluation criteria, sector thrusts and risks against Navy needs and Center objectives, sector thrust against sector/SBU/SSU interdependencies and responsibilities, product line priorities with current and future resource requirements, human resource share

summaries [sector as % of Center resources and SBU/SSU as % of sector], and potential barriers to sector's successfully executing its strategy.

Activity eight, **BOD Review and Resource Allocation**, consisted of three Board of Director tasks:

1. presentation and BOD evaluation of strategic proposals;
2. development of NSWC's overall strategy;
3. development of sector resource target recommendations.

The workshop's output was:

- a. strategic posture and plan evaluation by sector;
- b. definition of NSWC strategy and thrusts;
- c. establishment of human resource targets for each sector for the following 2 to 6 year period.

Work-year resources were numerically allocated by sector and SBU/SSU. The influence of the 'zero-sum' game [Center cap of 5000] continued to be a driving factor in strategic planning. In such a 'zero-sum' game the situation was one of 'win/lose' and not 'win/win.' The appearance of issues as 'zero-sum' or 'non zero-sum' determined the relationship between sector leaders as either competitive [mutually exclusive and defending their turf<sup>71</sup>] or

cooperative. Desired top level workshop results desired were (a) that the technology and systems efforts would increase, (b) that the commodities and service efforts would decrease, and (c) that support services would increase. The support service increase was desired because of (a) difficulties arising from prior resource reductions, and (b) a desire for improved business management and establishment of the Information Resources Group and the Warfare Analysis Group.

A key output of this period was the BOD-developed management and program planning guidance<sup>71,72</sup> described under activity one above. Part of this guidance centered on the identification of technical and programatic strategic thrusts for the Center.<sup>19,57</sup> **Technical thrusts** were in the areas of electronic warfare, low observable technology, artificial intelligence, directed energy weapons, space, advanced autonomous weapons, surface-launched ASW weapons and weapons systems, single and multi-platform combat systems engineering, and insensitive munitions. **Managerial thrusts** were in the areas of information and systems sciences, centralized warfare analysis capabilities, software maintenance and implementation, productivity and product quality, the Center's EEO program, the capital investment program, and a Center systems engineering design process. **Continuation**

from Cycle I of thrust identification and definition was key to moving forward with a corporate vision and key to the development of strategic thinking. This had a very powerful influence on the Center and encouraged a focus on the priority of independent research (IR), independent exploratory development (IED), the Asset Capitalization Program (ACP), and military construction (MILCON) resources.

Based upon allocations and guidance, post-workshop activities for the sector leader were:

1. rebalancing of the sector's product line mix;
2. assessment of sector rebalancing with options and contingencies;
3. sector reclama to BOD;
4. development of inter- and intra-sector resource allocation strategies;
5. sector/SBU/SSU strategic plan integration for CO/TD approval.

Once the CO/TD approved the strategic plan the Center could proceed with the tactical planning and implementation phase.

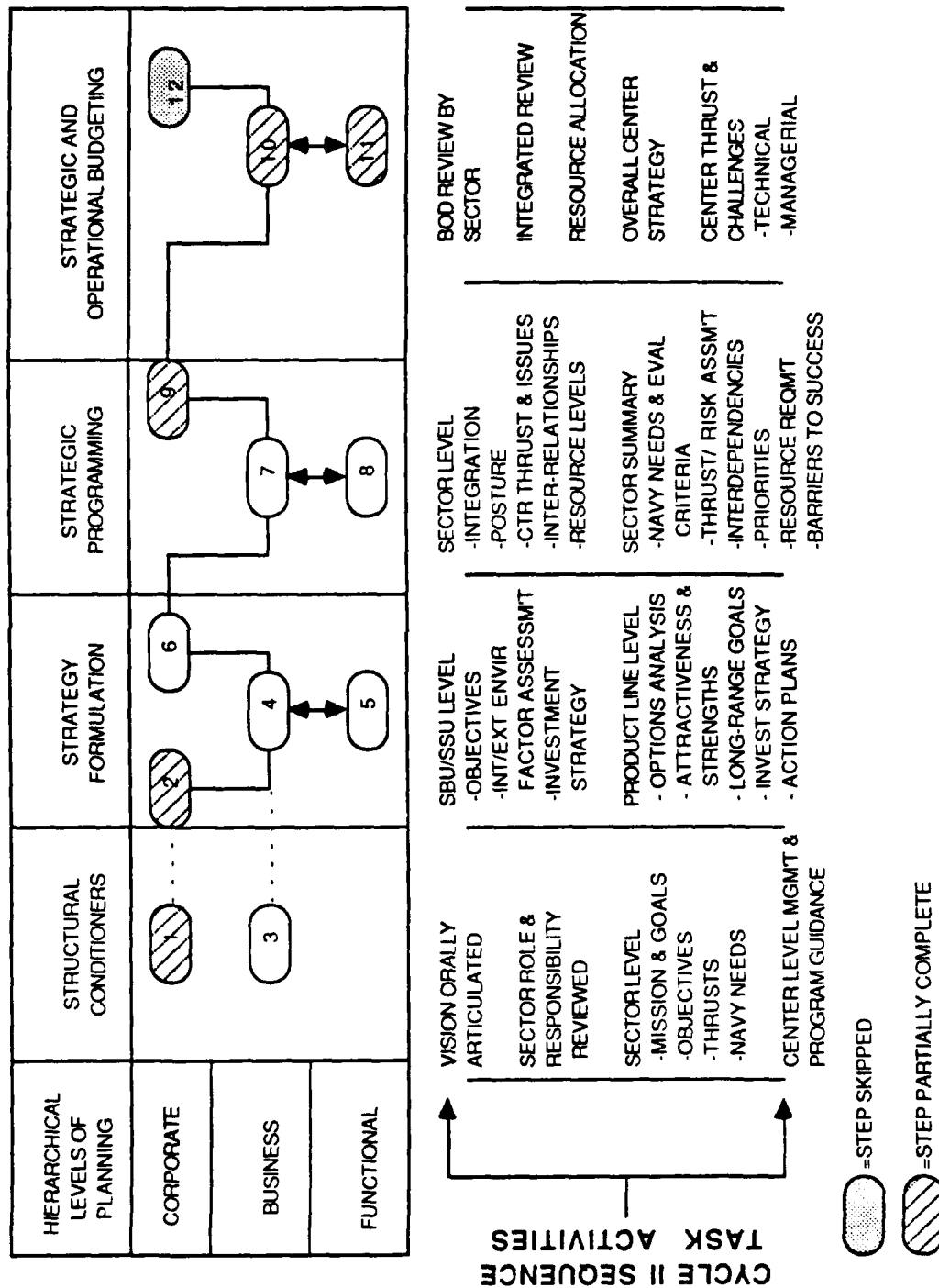
Activity nine, Sector/SBU/SSU Tactical Planning and Implementation, was intended to develop [based upon the

strategic plan] the tactical [short-term operational] plans for achieving SBU/SSU objectives. As was shown in Figure 20, the tactical planning phase was primarily a SBU/SSU and product line function. Review and control of the tactical plans at the sector level would be conducted quarterly with the SBU/SSU managers and yearly with the operational units.

The management performance objectives of the sector leaders, SBU/SSU managers, and line managers would be based upon near-term strategic objectives. Activity nine, tactical planning and implementation, was not formally implemented during the Cycle II period. Sector leaders and NSWC line managers were delegated the responsibility of implementing the results of the strategic planning process.

## 7.2 Cycle II Summary and Cycle III Transition

The major tasks undertaken during the Cycle II planning period in relation to the Hax/Majluf methodology are shown in Figure 25. Comparing Figures 7, 19, and 25, we see once again that many of the Hax/Majluf tasks were



**FIGURE 25. PLANNING TASKS SEQUENCE ACTIVITIES FOR THE CYCLE II PERIOD**

performed. Primary steps not included were the Hax/Majluf 1, 2, 9, 10, 11, and 12. The management guidance result was a move toward performing steps 1 and 2 of the Hax/Majluf methodology.

The subject of tactical plan development deserves more examination relative to the Cycle II period. Figure 22 shows the Cycle II activity flow chart with hierarchical levels. Note that on one occasion Cycle I activities (Figure 18) flowed from the BOD level to the SBU manager level and back to the BOD level. In Figures 20 and 22, we see the need for cycling between these levels several times as shown in the Hax and Majluf methodology (Figure 6). Figure 22 is the flow chart for **strategic planning only**. Figure 22's activity 9 assumed going through some similar flow chart for the tactical planning sequence of Figure 20. This is key because during the Cycle II period the Center did not do tactical planning. Therefore, implementation and evaluation of the Center's coordinated network of plans was not possible. This could be explained by the stronger need within the Center for team building, process-building consensus making, strategic planning education, managing the cultural change, and working through the process. The stronger need for and the complexity of institutionalizing strategic planning overrode the Center's ability to do

effective tactical planning at this time. This may be related to the staff's knowing how fast to proceed with process development without killing the entire strategic planning institutionalization effort. However, not getting to tactical planning in Cycle II produced intense frustration and disappointment among some of the participants. This caused the Center to question where the strategic planning effort was heading. A critical strategic planning process review after Cycle I may have increased Center's executives' attention to this problem. Although the process was continually being adjusted whenever the Center sensed the need, no formal strategic planning process or procedure reviews were ever conducted.

During the period after the workshop, the staff formally documented the strategic planning process results.

A Delphi survey on the future direction of NSWC's strategic planning efforts was conducted. Delphi results showed that (a) there was a desire for a more formalized two-year planning cycle, (b) no big updates of the strategic plan results were required, and (c) focus should be on implementation and review of progress.

In September 1985 [seven months after the Cycle II allocation], a progress review BOD workshop was held. At this workshop the Surface Warfare Analysis Office was formally tasked to conduct a Center level Navy needs assessment to be used as input for Cycle III. The activities of the new Information Resources Management (IRM) group were beginning to be factored into Center planning at this time. No other changes were made.

In February 1986, an alternate year BOD workshop was held. However, before the workshop got very far into its business, a Navy headquarters message was received notifying the Center of a major human resource reduction. The impact of this message resulted in a refocussing of the workshop toward developing a plan for handling this problem. Center senior managers spent the next two months developing a plan which would permit implementation of headquarter's guidance. The divestiture or reduction of 350 work years by the end of fiscal year 1987 was planned. An externally imposed constraint did not allow the Center to conduct a reduction-in-force (RIF) to achieve a work-years reduction. Results of the strategic planning process were the development of data for understanding the impact of particular program reductions or divestitures. Relief in the reduction was obtained, in part, as a result of this strategic planning data. Forced reduction is an

example of a public sector perturbation (discussed in Chapter 1) which originates in the political or higher authority levels and is unpredictable. During this period NSWC had to make crucial resource and program decisions within difficult time constraints. The decision-making process was tied to the Center's strategic planning in a mini-cycle. This proved to be dysfunctional to the strategic planning institutionalization effort.

During 1986-87, Command asked one of its senior executives to review the Center's Cycle I and II strategic planning efforts and to recommend how to proceed in Cycle III. This was NSWC's first review of its Cycle I and II corporate-style strategic planning process; it is hereafter referred to as the Strategic Planning Review. It is not surprising that some of these recommendations addressed the Cycle I and Cycle II problem areas and process difficulties encountered earlier. The recommendations focussed on:

- a. a stronger top-down or corporate-driven approach;
- b. allowing for an orderly and informed preparation of NSWC budgets;
- c. supporting investment plans in human resources, capital and technology;
- d. timely Center level management review and feedback;

- e. allowing for several iterations between hierarchical levels of various sequences; and
- f. allowing for more meaningful participation by SBU managers.

Fundamental recommendations with a specific approach for implementation and identification of responsible managers were presented to the Board of Directors. The BOD accepted the recommendations after four minor modifications. These recommendations were to:<sup>73</sup>

1. establish both explicit and implicit themes for Cycle III;
2. provide "Center Vision" over the planning period;
3. provide "Cycle III Guidance Elements" [issues or topical areas which require resolution during the planning Cycle];
4. establish success criteria for Cycle III;
5. identify resource categories, establish allocations [budgets] in all resource categories supportive of objectives and strategies, and assign resource authorities;
6. define Cycle III as a cycle;
7. assign responsibility for (a) management of planning cycle operation and (b) facilitating major cycle events/periods;
8. align sectors & SBUs more closely with line organization and redefine (a) SSUs as Sectors and (b) SSU product lines as SSUs;
9. reexamine and redefine current SSU product lines to achieve more relevancy to Center customers;

10. define a meaningful set of metrics [indicators] which represent a framework for communications throughout Cycle III;
11. define and implement a sequence of events in Cycle III which better addresses interrelationships between sectors/SBUs and SSUs;
12. ensure that BOD deals at appropriate (macro) level [no product line levels] and allow line managers more flexibility to manage and execute;
13. articulate NSWC's environment up front as framework for Center, sector, SBU, & SSU objectives, strategies, and plans;
14. include SBU managers in meaningful manner; and
15. encourage top-management to be more pro-active in marketing objectives, strategies, and plans.

During Cycles I and II there had been no development of the Hax/Majluf proposed **corporate level** vision, environmental scan (Navy Needs and Priorities Assessments), or strategic posture and planning guidelines. Up to this period, the only resource allocated by NSWC was work-years even though the staff fostered allocation of the five generic resources. Also, the Hax/Majluf strategic and operational budgeting steps were not performed by NSWC because the Center was funded under Navy Industrial Funding (NIF) rather than corporately. This resulted in the Center's budgets and other resource requirements (e.g., Asset Capitalization Program (ACP), Independent Research/Independent Exploratory Development (IR/IED), tenant support,

training, and Military Construction (MILCON)) not getting integrated into or coupled with the strategic plan. An advanced strategic management stratum would include resource allocation across all the resource areas based on strategic decision making and planning. During Cycle I and Cycle II, the primary interactions of the SBU managers responsible for preparing the plans were with sector leaders when they addressed SBU integration into sector units or with the BOD when they gave a 15-20 minute business unit presentation. This made it difficult for these managers to have enough communication and participation in the process to understand how and why strategic decisions were being made. Additional iterations between management levels with feedback by subordinate level managers during Center level strategy and objectives development could more strongly couple SBU managers to the process. As Figure 16 showed, the segmentation and realignment of sectors, SBUs, and SSUs was a continuing and on-going effort to obtain NSWC organization and strategic planning structure congruence. In the next chapter, the Cycle III examination will reflect on these recommendations and issues.

CHAPTER 8  
THE STRATEGIC PLANNING PROCESS OF CYCLE III  
JULY 1987 TO JULY 1989

### 8.1 Cycle III Planning Process

The Cycle III period will be defined as July 1987 to July 1989. During Cycles I and II effective implementation, control, and evaluation of strategic planning results at the operational level was extremely difficult for the Center to achieve. Without the management control and evaluation process, it was not possible to have a coordinated network of Center plans. Recall that strategic planning was seen as a means to an end not an end in itself. Thus, the focus or objective of this planning period centered on improving the transition from strategic planning to tactical planning and on implementation, evaluation, and control processes. The 15 recommendations from the strategic planning process review provided the impetus to make some of the changes required to do effective tactical planning, control, and evaluation. In the context of Cycle III, strategic planning meant that sector leaders and SBU/SSU managers had to develop Center goals, objectives, strategies, and resource estimates to a ten-year planning horizon as opposed to the tactical planning that had involved department heads and line/program managers developing broad action programs and specific action plans, applying resources, and evaluating progress over a three year-period. This concept was a major change in NSWC's

thinking about how to overlay or couple its strategic planning structure to the organization's hierarchical management levels. Planning at the product line (PL) level during Cycles I and II was tactical planning in line with the five to seven year planning horizon. Cycle III, however, clarified the actual work of the implementor's [line managers and program managers] role in the planning process. Although in some cases line and program managers were also SBU or SSU managers, generally this was not the case. This can be easily verified by comparing the 45 technical department division level managers to the 24 technical SBUs. Shortening the tactical planning horizon to three years and updating the tactical plan annually were necessary steps for improvement.

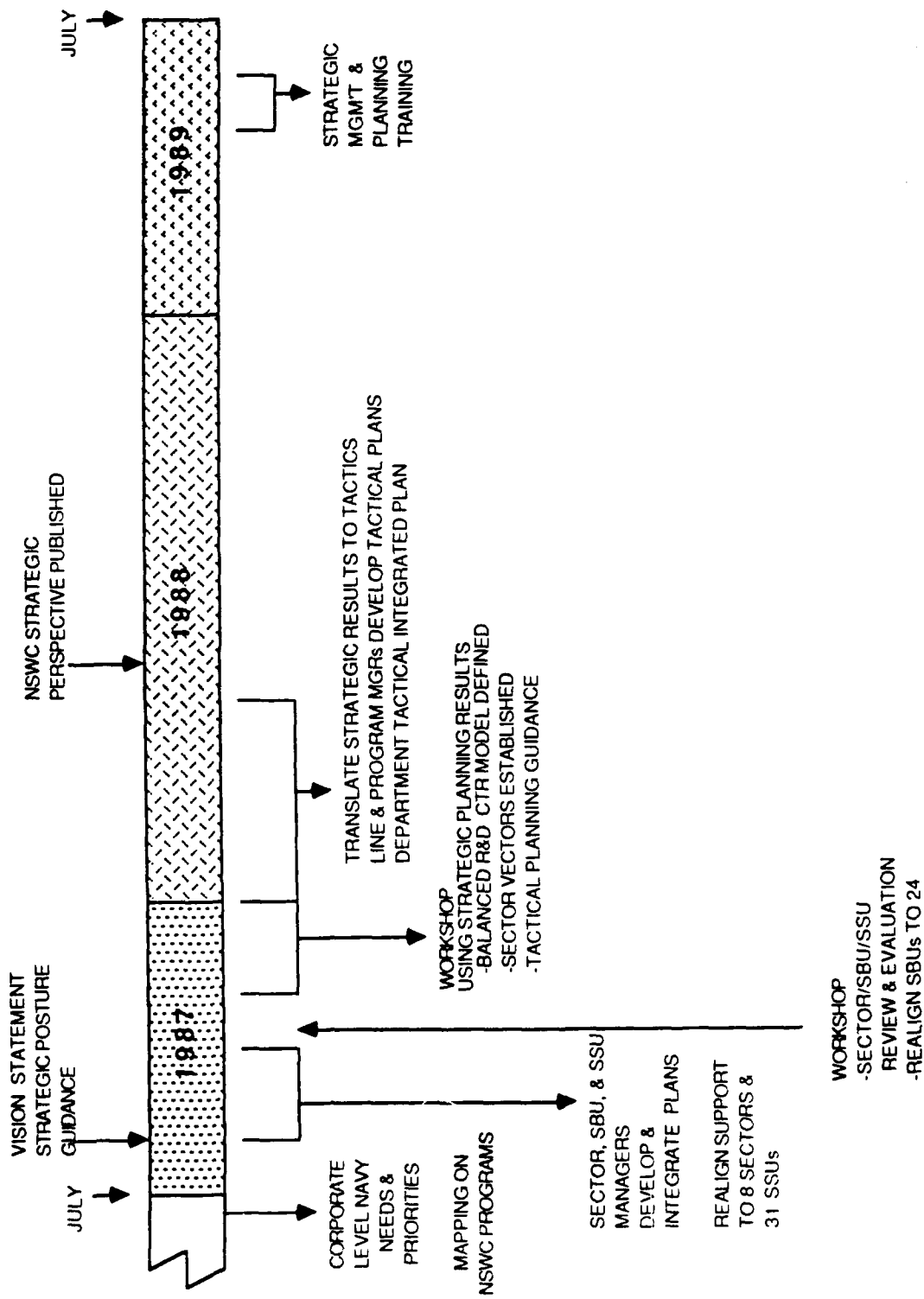
The Center's understanding of the importance of having a corporate level vision [Hax/Majluf step 1] and strategic posture and guidelines [Hax/Majluf step 2] developed throughout Cycles I and II. Recall that a corporate level Navy Needs and Priorities Assessments [environmental scan] for Cycle III were tasked by Command in 1985. The strategic planning review amplified this up-front in recommendation 13 articulating NSWC's environment as the framework for Center, sector, SBU, and SSU objectives, strategies, and plans. This recommendation meant inputting to the planning cycle, at the NSWC

corporate level, DOD/DON needs and priorities, headquarters guidance and constraints, and the Navy R&D Center community perspectives.

The Cycle III period is characterized by four principle activities:

1. A corporate structural conditioner and strategic formulation period which included widespread dissemination to strategic planning participants at all levels of the results of the Navy needs and Navy priorities assessments and the development of a Command vision statement, strategic posture, and guidelines;
2. An eight-month strategic and tactical plan development;
3. A major issues resolution and final decisions period;
4. A transition to tactical plan development and more advanced strategic management.

Figure 26 shows the major activities of the Cycle III period as a function of time. This section will focus principally on areas 1 and 2. Figure 27 shows the Cycle III planning activity flow at the hierarchical levels. Activities did not follow the flow chart for Cycle II as shown in Figure 22. The prior Strategic Planning Review had sufficiently addressed the roles and responsibilities of the BOD, sector leaders, and SBU managers in



**FIGURE 26. CYCLE III PERIOD MAJOR ACTIVITIES**

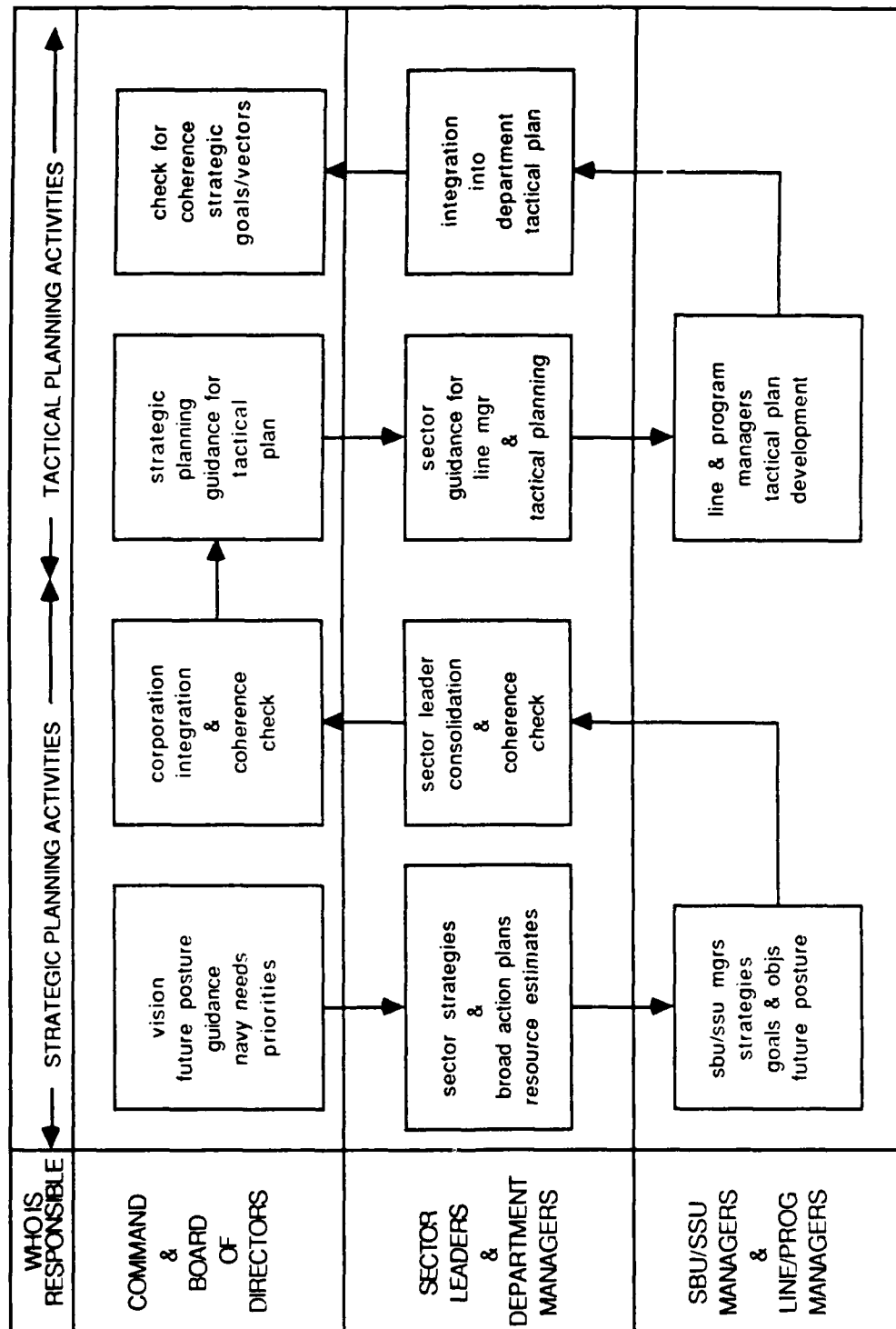


FIGURE 27. NSWC CYCLE III PLANNING ACTIVITY FLOW CHART

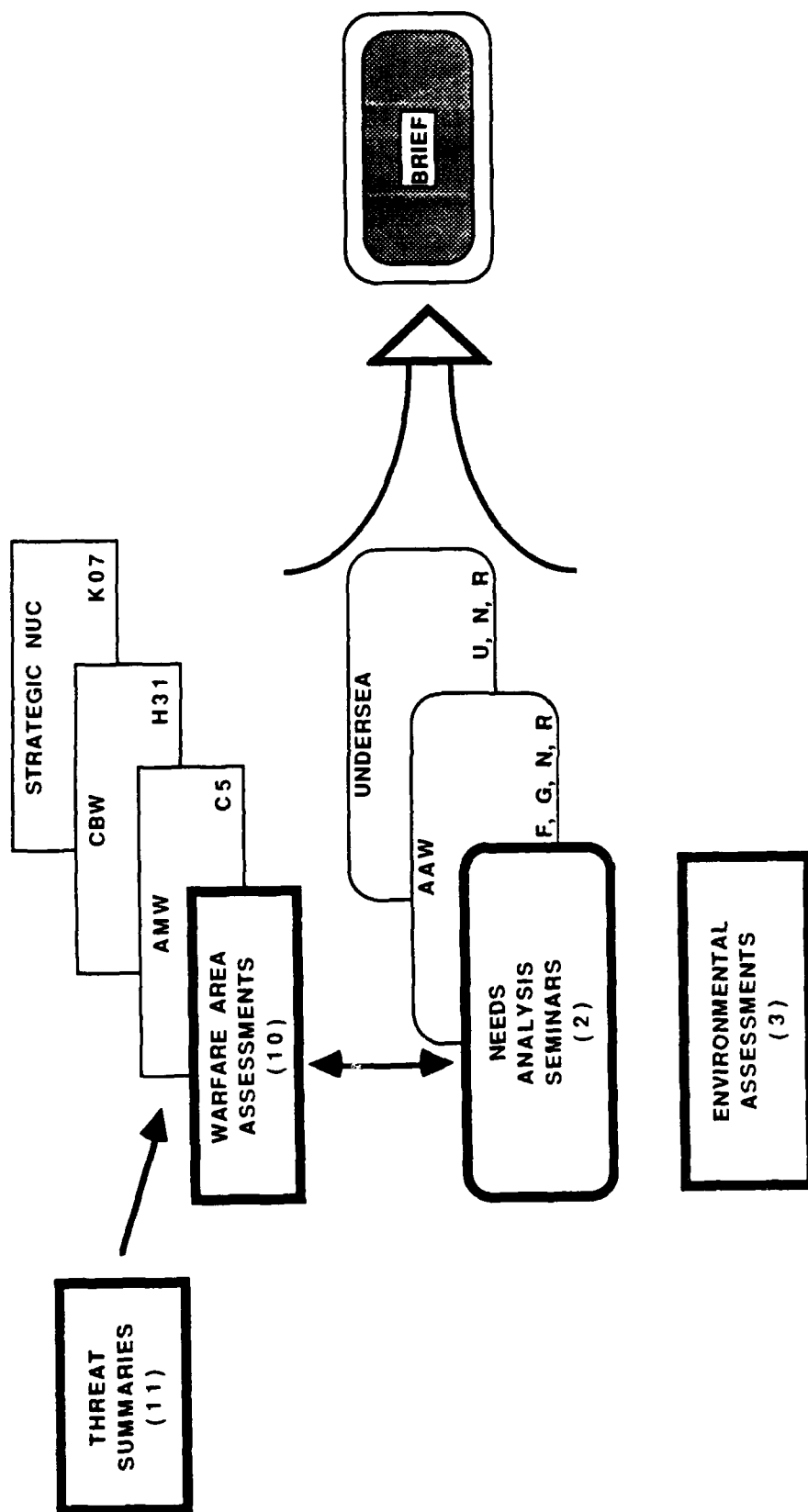
recommendation 12. The BOD had accepted the specific recommendations for each level. So with Cycle I and II experience as background, all that was necessary was promulgation of the roles and responsibilities to planning participants for reinforcement. Appendix E contains NSWC's view of the roles and responsibilities of strategic planning participants.

Stenger in discussing the need for corporate-style strategic planning pointed out that little or no top level guidance of future Navy needs and requirements was available to federal managers. The Department of Defense (DOD), the R&D Centers, and NSWC perform many types of assessments and evaluations on a regular basis. However, assessments of the 'Needs of the Navy' and the 'Priorities of the Navy' as corporate level R&D center strategic planning inputs had never been performed. Needs and requirements were provided to some degree by Navy headquarters. However, they were located in diverse and scattered source documents.

We will examine these assessment procedures to develop an appreciation of their scope and critical internal and external interactions/interfaces. During Cycles I and II, staff suggested a procedure for

developing Navy needs at the sector level. In Cycle I for the sectors associated with anti-air warfare and anti-submarine warfare areas, panels of NSWC technical experts brainstormed and used locally available external documents to determine Navy needs and key technologies. Staff provided evolving guidelines to the other sectors. The results were not uniform across sectors and could not be integrated at the corporate level. In Cycle II uniform guidelines were provided to all sectors. The results were better but very much sponsor- and competition-orientated. They, also, were not uniform across sectors. In Cycle III the intent was to develop a uniform look across warfare areas taking a multi-warfare and cross-sector view. The purpose was to provide a top-down maritime strategy framed assessment of Navy needs and identification of opportunities for Center investment. To do this the effort had to (a) provide a view of the external R&D environment, (b) assess needed capabilities in warfare areas of interest to the Center, (c) compile the needs and identify potential opportunities for NSWC planners, and (d) promulgate the results via briefing sessions. The assessment was performed by a command level analysis group using higher level (external) sources. It was based on the threat to our maritime forces. The time frame addressed was that of the Center's efforts in the DOD Program Objective Memorandum (POM) years which would

impact the Fleet by the year 2005. The assessment was not constrained by available resources when identifying potential opportunities for Center efforts. It was expected that NSWC would not be able to address some of the opportunities due to limited resources. The results were not prioritized for NSWC. They were prioritized based upon understanding of the Navy's warfighting needs. The NSWC strategic planners were to do the Center's prioritization based upon factors influencing NSWC's strategic planning choice (e.g., Center resource levels, existing commitments, and personnel skill mix). Figure 28 shows the activities of and participants in this effort. The numbers indicate how many activities were performed and the letters indicate which technical departments assisted command staff in preparing the results. Two 'needs analysis seminars' were conducted in the anti-air warfare and underseas warfare areas. For the anti-air warfare areas, technical experts from four technical departments played major roles in the analysis and results generation. This technique provided specific technical expertise but more importantly it made line managers and scientists partners. It facilitated buy-in and resulted in better acceptance throughout the Center of assessment results. The environmental assessments dealt with changes, trends, and implications of (a) the geopolitical



•LETTERS REFER TO NSWC TECHNICAL DEPARTMENTS  
( ) NUMBERS REFER TO NUMBER OF ACTIVITIES PERFORMED

FIGURE 28. NAVY NEEDS ASSESSMENT ACTIVITIES & NSWC PARTICIPANTS

picture, (b) Navy budgets, and (c) the Navy's maritime strategy. Figure 29 shows the major sources used in the conduct of the needs assessment. The selection of NSWC planning issues was based upon two filters and three criteria. Selection of NSWC planning issues (opportunities) required that the Navy needs (a) fell within the Center mission, and (b) had not been addressed by a recent Center initiative. In seeking high priority needs worthy of consideration for greater Center attention the criteria applied to issue selection were that the issue (a) be of top priority with regard to the threat or the maritime strategy, (b) represent the best opportunity to address a number of needs, and (c) be cost-effective and get the best payback for investment. The results provided prioritized Navy needs representing those areas in which the Navy could best benefit by greater NSWC emphasis. Coherence checks were obtained by discussing detailed results with senior Navy officials.

One of the objectives of NSWC strategic planning is to assure that the work of the Center supports the major thrust within the surface Navy community and addresses the key technological and systematic needs or gaps in the surface Navy's ability to complete its missions within the framework of the maritime strategy. The Navy Priorities

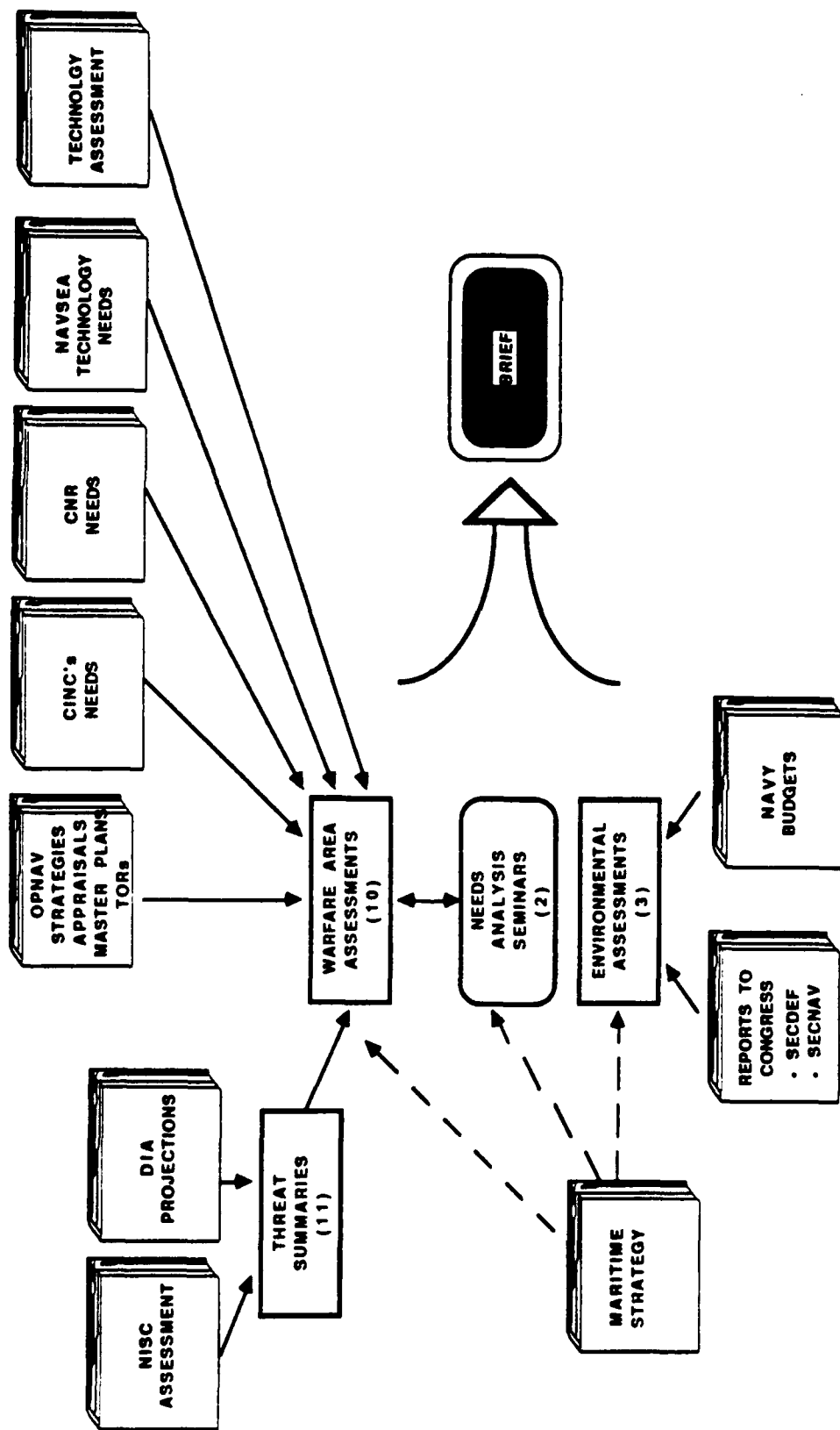


FIGURE 29. NAVY NEEDS ASSESSMENT MAJOR RESOURCE SOURCES

Assessment developed and implemented a methodology for establishing priority programs within the surface Navy based on official Navy and DOD nearer-term planning and budgeting documents. The results were then reviewed by high level Navy commands to obtain their inputs on the sources used and the priorities identified. The purpose was to assure that Center sector and SBU/SSU managers understood the priorities of the surface Navy when doing strategic planning. This provided an evaluation tool for deciding how current and planned work lined up with the surface Navy's priorities. It was used by the Center BOD as input in making decisions across work sectors and SBUs. Priorities were developed in three categories: (a) programs which represented where the Navy was putting its money and emphasis in the near term (3 to 5 years), (b) future needs which represented the areas of concern for which new solutions needed to be developed, and (c) emerging technologies that the Navy's technology agencies were saying needed to be exploited in new ship and system designs.

Priorities were filtered through NSWC's mission as a Surface Warfare Center. A key consideration in the planning process was how the Center work balanced and how its programs aligned with these priorities. The Center's program budgeting and manpower data base was used to match

NSWC programs with Navy priorities. This provided a means for examining relative contributions to both the Navy and NSWC. It also yielded potential areas to examine for divestiture and the application of additional manpower. It helped the Center identify where there was a need to develop justification for the continuation of programs that the Center believed were important to the surface Navy but which were not currently given high visibility within the surface Navy planning process.

The Navy Needs Assessment and the Navy Priorities Assessment were key corporate level efforts to kick-off Cycle III planning. Corporate issues and opportunities that deserved particular consideration by planners in formulating and prioritizing Center work were provided for the first time. Center current and future work was placed in the perspective of the Navy's priorities in the making of strategic planning decisions.

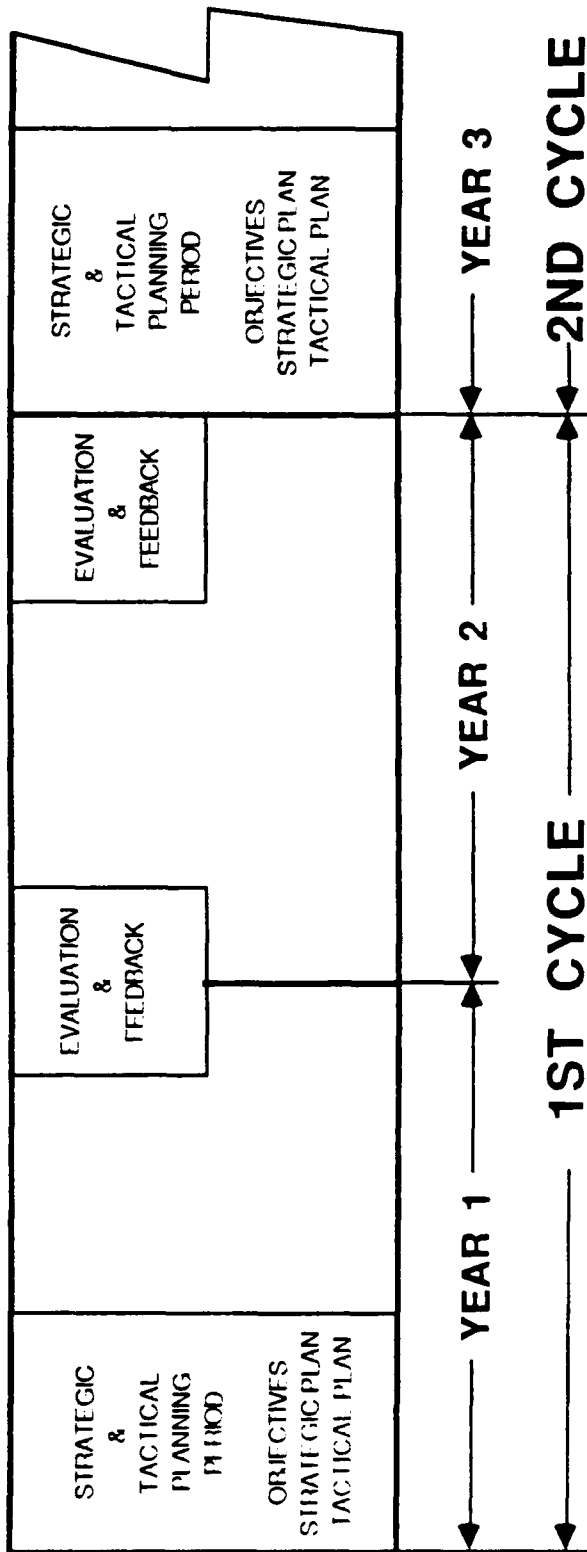
The staff worked closely with the Commanding Officer (CO) and Technical Director (TD) to develop a corporate vision statement, the strategic posture, and guidelines. This occurred over a three-month period and included many working sessions. Meetings were held with NSWC supervisors and the BOD for feedback and consensus building. To obtain perspective on the scope of the

effort, a number of key information sources were used by the CO, TD, and staff. Presentations and speeches of the Center's CO/TD were examined along with its assigned mission and leadership areas. Program and manpower distributions, NSWC resource capabilities, internal and external constraints, Cycle II thrusts, Cycle II sector missions and goals, Navy needs, Navy priorities, and NSWC program mapping versus Navy priorities were all used in deriving the results. The draft vision which addressed NSWC's future posture, goals and constraints, mission and corporate philosophy, values, and leadership areas was iterated between the CO/TD and sector leaders [department heads] to obtain feedback, consensus, and buy-in. Appendix F contains the August 1987 result. The vision and guidance statement received wide dissemination to strategic planning participants. In May 1988 NSWC published "A Strategic Perspective on the Future of the Naval Surface Warfare Center"<sup>74</sup> which integrated the vision statement, future posture, sector and department guidance, Center goals, Center issues, Center objectives, and the role of the employee. Essentially these results were the implementation of the previous Strategic Planning Review's recommendations 2 and 3 on vision and guidance. The establishment of both explicit and implicit themes for Cycle III was not implemented beyond what might be extracted from the vision statement.

Clearly, we see the Hax/Majluf steps 1 [vision statement] and 2 [strategic posture and guidance] as part of the NSWC methodology for the first time in Cycle III.

The strategic and tactical plans development was performed in the July 1987 to April 1988 period. It was during this period that the only support sector and its eight SSUs were realigned as eight sectors and thirty-five SSUs per the Strategic Planning Review's recommendation 8. Based primarily upon the Strategic Planning Review's recommendation 6, a two-year planning Cycle was defined (see Figure 30). We will see that Cycle III did not follow the proposed two-year cycle. Evaluations and annual tactical planning updates were not undertaken by the Center. This section draws heavily on the NSWC draft "Strategic and Tactical Planning Process Instruction."<sup>75</sup> It was the intent of the Center to reduce the amount of paperwork prepared during Cycle III. Staff provided to the sector leaders the formats to be used in developing their plans. This is similar to Cycle I's - "A How to Do it Guide for Managers," and Cycle II's "Strategic Planning Guide." The instruction/guide was nowhere near as comprehensive from the strategic planning

# TOP LEVEL TWO YEAR PLANNING CYCLE ACTIVITIES



## DETAILED TWO YEAR PLANNING CYCLE ACTIVITIES PROPOSED

STRATEGIC PLANNING	TACTICAL PLANNING	E V A L	E V A L	TACTICAL PLAN UPDATE	EVAL & PRE-PLANNING PERIOD
1ST QTR	2ND QTR	3RD QTR	4TH QTR	1ST QTR	2ND QTR
YEAR 1					
YEAR 2					
3RD QTR					
4TH QTR					

\* AFTER CLARE & SNYDER

FIGURE 30. PROPOSED NSW TWO-YEAR PLANNING CYCLE

process perspective as it was in prior Cycles. Over a three-month period sector leaders working with their SBU/SSU managers prepared plans addressing:

- sector vision and guidance
  - mission and goals
  - opportunities and challenges
  - objectives
  - constraints
  - focus of attention
  - strategies
- sector Navy needs
- sector Center level objectives
- segmentation SBU/SSU
- work completed or transitioned over 10 years
- work-year estimates
- human resources
- financial and business resources
- facilities and equipment resources.

The individual SBU/SSU plans addressed (a) product/service scope, (b) goals and objectives, (c) sponsors, (d) product line segmentation, (e) strategies, and (f) planned posture over a 10-year horizon. This level of SBU/SSU planning is analogous to the Hax/Majluf step 5, formulation of functional strategy. During this

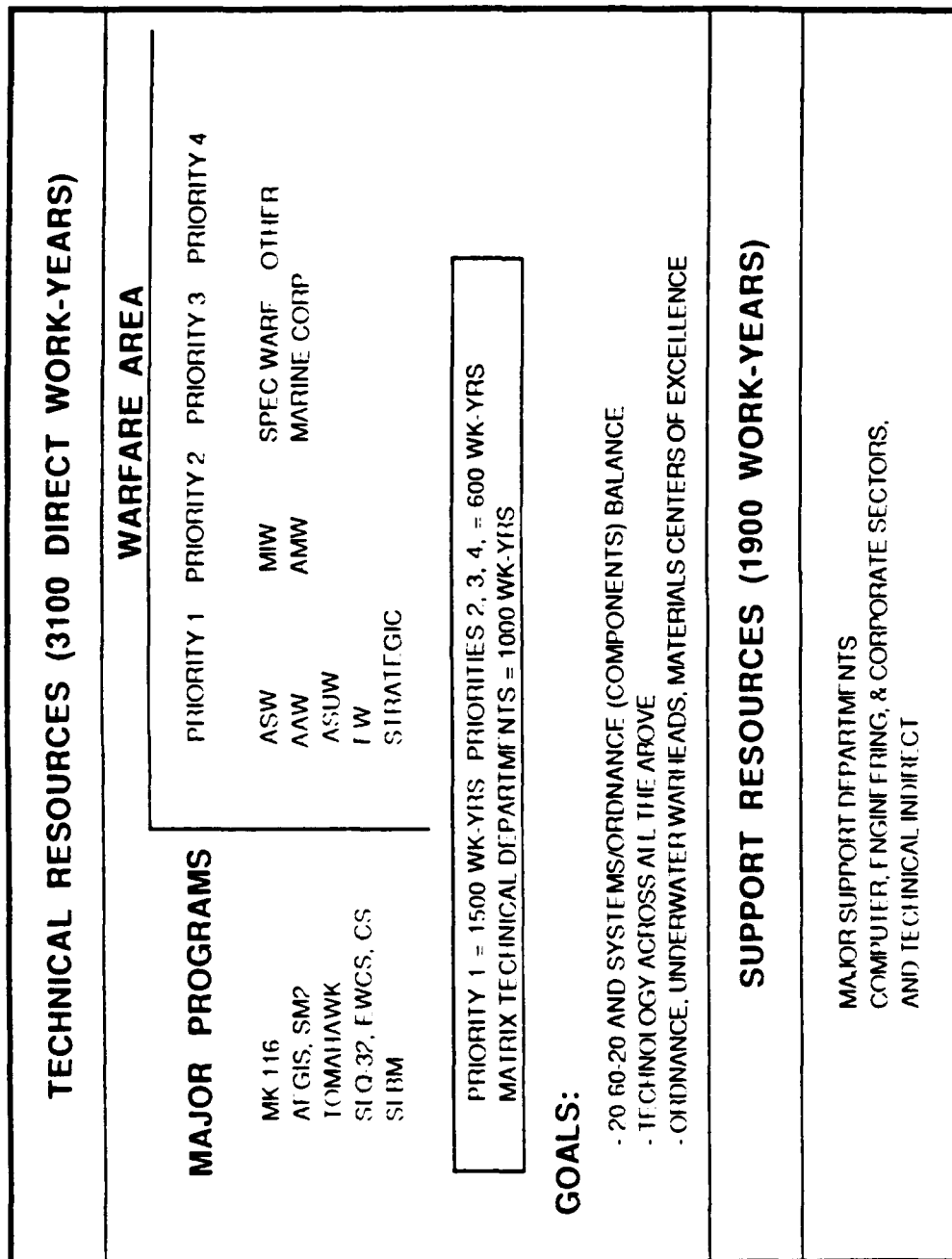
process sector leaders and SBU managers reduced by consolidation 30 SBUs to 24 SBUs.

Sector leaders and SBU Managers presented the planning results in October to the BOD for discussion and evaluation. The results were viewed as work postures, i.e., an integrated and balanced work plan to be pursued by NSWC over a ten-year time frame that best met Navy needs and priorities in the NSWC mission and was the best use of Center resources. The staff provided sector summaries of the issues and key concerns. SBU/SSU evaluations based on a value judgment of the merits of the sector/SBU/SSU presentations were made. This was done by the BOD's first evaluating individually and then by integrating across the Center the (a) work plan, (b) strategies, and (c) cost in direct work-years. Then, the CO and TD provided their integrated evaluation using the BOD results as input data. The results of the CO and TD evaluation were presented to the BOD at workshops in November and December and provided opportunities for discussion and resolution of the issues.

The workshop objectives were to (a) discuss a "Balanced NSWC R&D Center Model" for 1997, (b) set the direction of work-years [called sector vectors] over a 10-year time frame, and (c) determine feedback to line

managers for tactical planning. Critical issues relating to the definition of the "Balanced R&D Center Model" were integrated into the workshop agenda to stimulate discussion of alternative solutions.

Figure 31 shows the "Balanced R&D Center Model." It portrays the Center with 5000 work-years composed of 3100 direct and 1900 indirect. The 5000 number had been arrived at during earlier cycles. Center senior managers believed that to maintain the R&D laboratory character NSWC should not grow beyond 5000 work-years. The key would be to keep the work balanced within the 5000 constraint between technology base, systems development and procurement, and in-service engineering(ISE). Recall the earlier discussion of the full spectrum mission of the Center (discussed on page 24). R&D Center work balance was considered to be approximately 20% technology base, 60% systems, and 20% ISE. A systems laboratory was considered to be 0% [or very small] technology base, 80% systems, and 20% ISE. At the other extreme from an R&D Center is the ISE activity with an approximate mix of 0% [or very small] technology base, 20% systems, and 80% in-service engineering.



**FIGURE 31. BALANCED R&D CENTER MODEL**

Priorities were set for achieving the model. The first priority was to commit 1500 direct work-years to the areas of anti-submarine warfare (ASW), anti-air warfare (AAW), anti-surface warfare (ASUW), electronic warfare (EW), and strategic support. Priorities 2, 3, and 4 were to have 600 work-years committed to them. They were mine warfare and amphibious warfare [priority 2], special warfare and Marine Corps work [priority 3], and other areas [priority 4]. The organizational resources of engineering, protection, and technology would be allocated 1000 work-years to support the Center's priority programs and the technology areas. The Center's work balance goal was set at 20% technology base, 60% systems development and procurement, and 20% ISE. Support resources were allocated 1900 work-years including support departments in total and the indirect portion of technical departments (i.e., line managers and secretaries).

Broad tactical planning guidance feedback was developed at the workshops for use in each sector by line and program managers. Tactical plans were developed between January and April 1988. Sector leaders conveyed strategic goals, vectors, and guidance to SBU/SSU managers. Sector leaders then prepared specific guidance for line and program managers. These individuals developed tactical plans. After discussions with

appropriate sector leaders, department heads consolidated tactical plans into a department level tactical plan. The department level tactical plans included a summary and the translation of strategic goals and vectors into action plans, major milestones, and resources.

### 8.2 Cycle III Summary

In summary, Cycle III included major strategic planning methodology advances over Cycle I and II processes. Some of these advances were:

- corporate level needs and priorities assessments;
- corporate vision of success, strategic posture, and planning guidance;
- coupling of line/program manager planning with sector/SBU/SSU planning to develop a coordinated Center network of plans via tactical planning;
- demonstration of strategic thinking by executives and managers for the 1997 Balanced R&D Center Model;
- integration of the strategic plan to the headquarter budget submission (All budget).

Both strategic plans and tactical plans were prepared in Cycle III. However, there were two significant shortfalls relative to NSWC's practicing strategic

management at advanced levels. First, only resource 'work-years' were allocated based upon the Cycle III strategic planning process. Other critical resources (e.g., Asset Capitalization Program funds (ACP), IR/IED funds, training funds, facilities funds, etc.) were not explicitly prioritized or allocated. The most effective total resource deployment to achieve the 'vision of success' may remain an issue. Second, the evaluation and management control processes required for strategic management have not been activated. Responsibility for accomplishing strategic and tactical objectives and milestones within cost and schedule has been delegated, by default, to the department heads and division heads. There is little if any strategic control under these conditions. The ability of NSWC to implement, monitor, evaluate, and correct strategic commitments is almost entirely lost. If this were an industrial firm, performance measures/parameters/metrics such as market share, growth, profits, or capitalization would have been quickly defined. This loss may be due to the difficulty of government's mirroring industry's concept of accountable management with defined measures of program effectiveness in achieving objectives. NSWC may have difficulty starting the next strategic and tactical planning cycle without effective metrics and evaluation and control processes. But government agencies must not

give up striving to define strategic planning performance measures and metrics. Metrics provides a communication device and benchmark for measuring gains made during the evaluation and control process. The application of metrics and evaluation and control processes is directly related to the level of strategic management actually implemented; the accomplishments of this cycle outweigh the shortfalls. If the advantages of strategic management are desired, then these elusive shortfalls must be eliminated. The optimum benefits of strategic planning and strategic management cannot be obtained without metrics, evaluation, and control. The fundamental elements of strategic management are shown in Appendix G. Readers are also referred to Chapter 5 of Reference 3.

In Cycle II, technology was emphasized particularly in the area of technical thrusts [see page 172]. In Cycle III, thrusts were submerged more into the background at the strategic level because Center evaluation and control mechanisms were lacking. However, because many technologies are closely tied to department products, Cycle III emphasized that technology belongs and must be in all sectors. Thus, the Center thrusts were assigned as individual sector thrusts. This was a change from the position taken in Cycles I and II that placed all technology in one sector.

The major tasks undertaken during this cycle's activities in relation to the Hax/Majluf methodology are shown in Figure 32. When compared with earlier cycles (see Figures 7, 19, and 25), we see more of the specific Hax/Majluf corporate level tasks being performed.

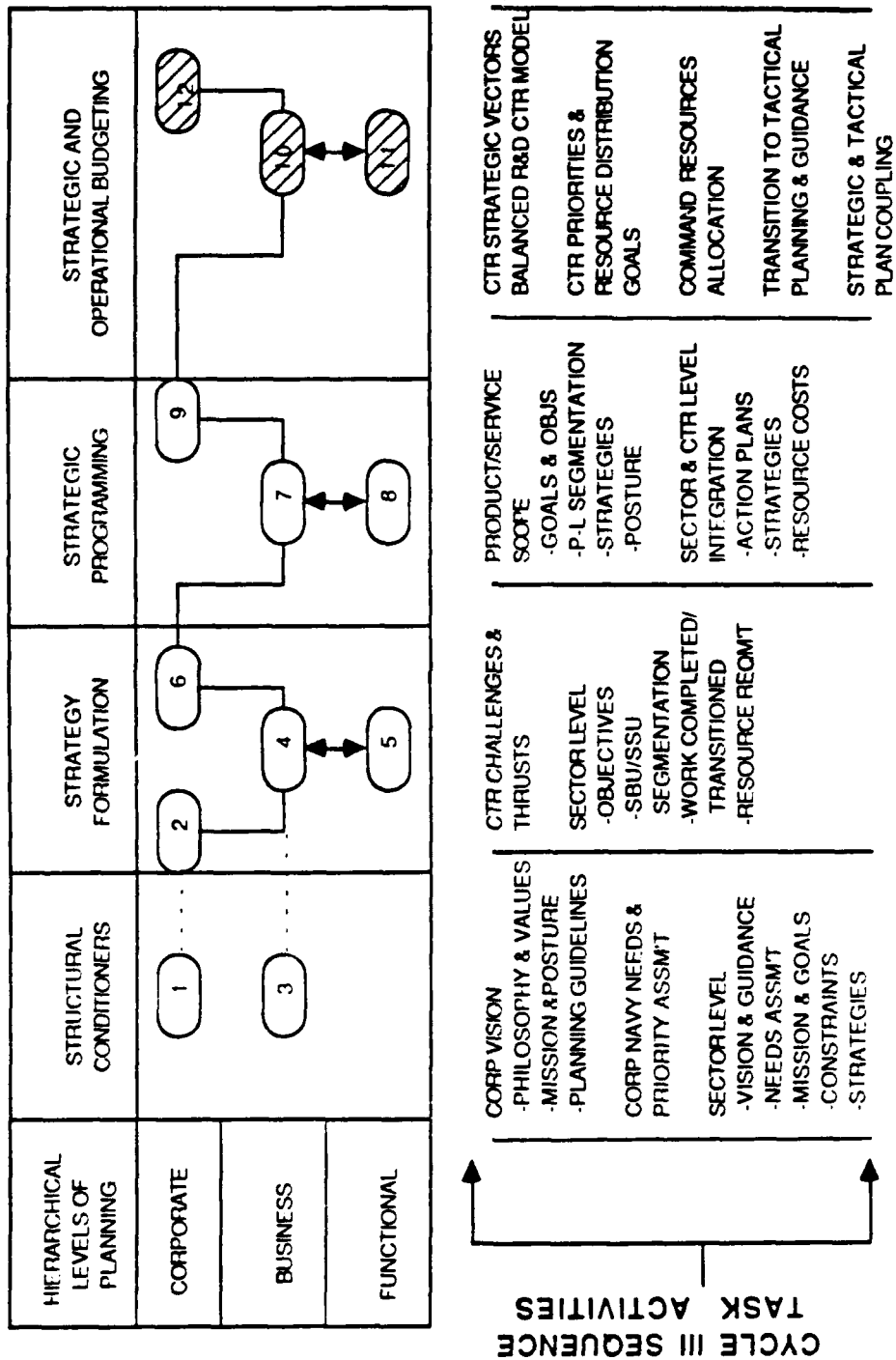


FIGURE 32. PLANNING TASKS SEQUENCE ACTIVITIES FOR THE CYCLE III PERIOD

CHAPTER 9

OBSERVATIONS ON THE INSTITUTIONALIZATION  
OF  
CORPORATE-STYLE STRATEGIC PLANNING  
AT NSWC BETWEEN 1982 & 1989

## 9.1 Corporate-Style Strategic Planning

This thesis set out to describe the development, implementation, and institutionalization of private sector corporate-style strategic planning methods in a public sector federal government Department of Defense research and development organization. Corporate-style strategic planning was defined as the use of a formal integrative strategic planning process whose cornerstone is the segmentation of the organization's activities into strategic business units (SBUs). The circumstances at NSWC leading up to the 1982 Board of Director's decision to undertake strategic planning were presented. The NSWC planning methodology evolution, specific activities, and strategic management practices associated with the four major periods shown in Figure 33 were summarized. These periods included the preparation period, Cycle I, Cycle II, and Cycle III. The integrative strategic planning methodology of Professors Arnoldo C. Hax and Nicolas S. Majluf, instrumental in initiating corporate-style planning at NSWC, was used as a vehicle for analysis and discussion. Research methods included (a) interviews with executives and managers in NSWC technical and support organizations at the department, division, and program manager levels, and (b) the review of NSWC strategic

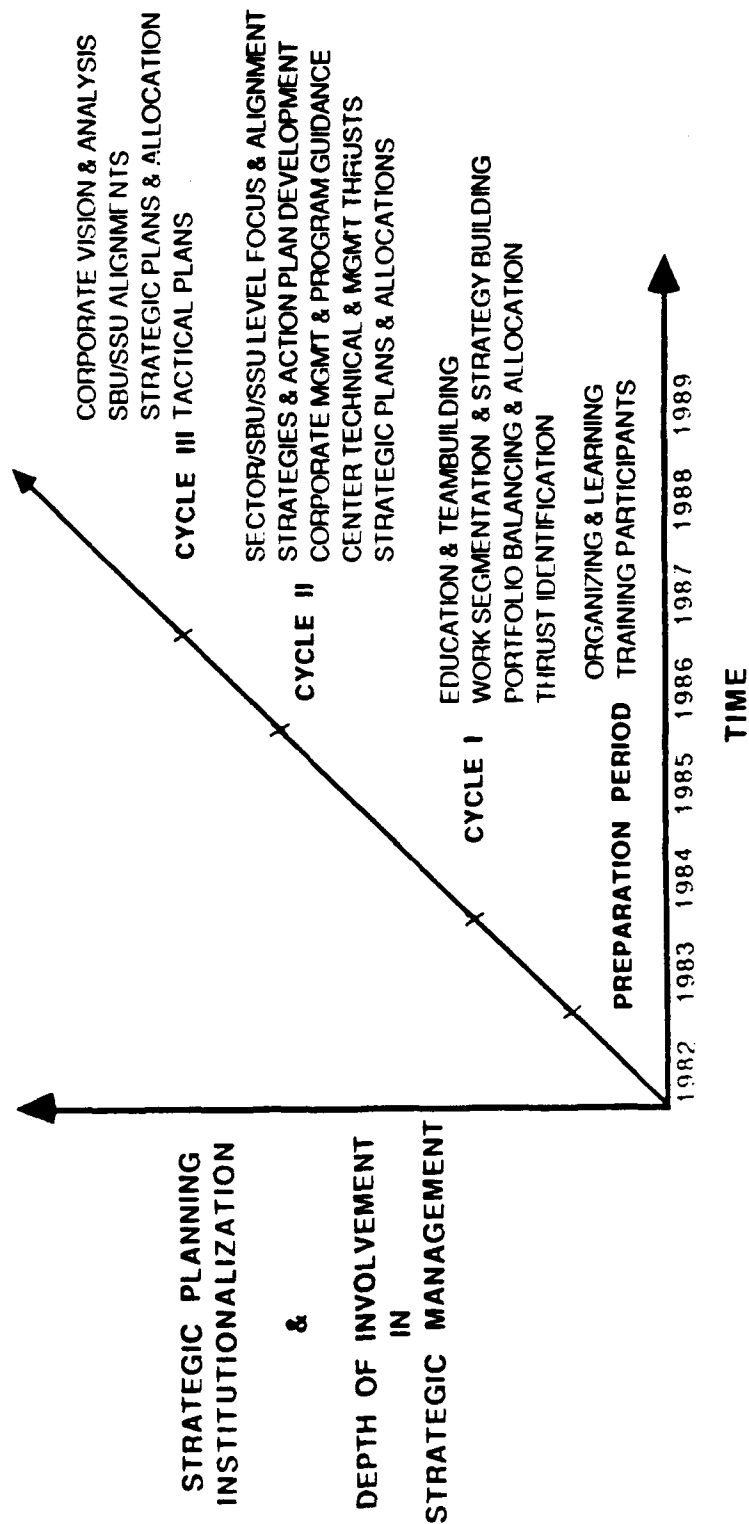


FIGURE 33. NSWCC CORPORATE-STYLE PLANNING SUMMARY

planning documentation. This group of ten interviews is too small to make sweeping generalizations, but it did provide important perspectives which were not obtainable from reading the strategic planning documentation of NSWC or the literature. These perspectives, developed from the interview process, are woven throughout the thesis.

Considering the fact that the motivations and forces which drive business to undertake the complexities of corporate-style strategic planning do not exist within the federal sector, one is struck by the amount of progress being made at NSWC in the institutionalization of a systematic strategic planning process. I believe that there are many tangible and intangible benefits for the Navy and NSWC employees, managers, and executives directly attributable to NSWC experiences. I have frequently been asked, "Was strategic planning done right or wrong at NSWC?" It could be dangerously misleading to make a "right or wrong" comparison for NSWC or any organization. For organizations considering strategic planning, this point cannot be overstressed because private sector approaches are not equally applicable to government organizations and their particular environmental conditions. Dr. Hill, the Technical Director at NSWC from 1983 to 1989, said: "Productivity for an R&D organization is synonymous with organizational effectiveness -- and

this is heavily dependent on the degree to which two attributes are present: dedicated, capable people, and a sense of purpose and direction."<sup>60</sup> The results of NSWC's strategic planning can only be judged in terms of whether the organization had that sense of purpose and direction which enabled it to cope with the complex nature of the problems and the environment then as well as in the future. The following question must be answered:<sup>70</sup>

Has strategic planning assisted managers in making effective decisions that determine the products and services offered, the clients/sponsors supported, and how best to develop their organization over time to implement those product-, service-, and client-support decisions?

In 1980, internal and external environmental conditions raised the level of management's attention at NSWC to the need for a means which would provide a cohesive focus on the Center's mission and permit some control in shaping its future destiny. The motivation for strategic planning had come, in part, out of the following three primary needs:

1. NSWC, faced with resource constraints, needed a cohesive resource deployment mechanism. However, its mosaic of individual projects and

sponsor needs in an environment fostering entrepreneurship and autonomy prevented action.

2. Externally imposed management controls required a systematic process to facilitate major program comparisons both within and across departments for resource allocation and divestment decisions.
3. Rapid technological change in the Navy was creating powerful forces and trends which could, over the long-term, change the character and values of the R&D Center unless the nature of change and the strategic options available were understood.

As a result of the 1982 Board of Director's decision to undertake strategic planning, NSWC had (a) a corporate 'vision of future success,' (b) an understanding of the strategic alternatives, (c) a strategy, and (d) strategic and tactical plans. But, more importantly, the organization had numerous and intangible benefits accruing from having worked through the planning process three times and from having managers/executives who thought more strategically. NSWC had acquired core skills that led to a firm-specific advantage (FSA). This FSA endogenous to NSWC is an intangible advantage when competing for and deploying limited public assets. It is doubtful that this situation could have developed without the courage and fortitude the BOD exhibited in 1982 in charting a new course for NSWC.

This thesis shows that the institutionalization process is more complex than it seems at first glance. Constraints such as operating in a 'zero-sum' game significantly increased the complexity of employing a Hax and Majluf type strategic planning methodology because of the 'win/loose' situation. The complexities of planning have been captured in this view:<sup>74</sup>

"During the past six years... a great deal of effort has been devoted to planning at many levels and by many people throughout the organization. It would be tempting to claim that this effort has been neat and orderly, that it has always progressed logically and rigorously from the general to the specific and that, as a result, we now have identified with certainty all of the actions and activities to be undertaken in the future. Nothing could be further from the truth; in fact, if we were ever to delude ourselves into thinking that such a level of perfection had been reached -- or even that it was reachable -- it would be a clear signal that our planning was probably seriously flawed. The process by which we are seeking to improve the quality and effectiveness of Center planning has, at times, been sporadic, chaotic, and contentious; has involved false starts

and back-tracking; and has by no means eliminated all doubt about what will happen in the future."

The process was not without psychological, emotional, time, and financial costs. NSWC paid the cost, and found that the planning effort was extremely worthwhile.<sup>74</sup>

Readers are cautioned that a full exposition of NSWC's strategic planning is not possible within the constraints of a masters thesis. The nearly eight years of detailed planning efforts and activities can not be contained in this document. Discussions with the NSWC planners who toiled over developing and institutionalizing the process would be necessary for more in-depth information. Some important issues for future exploration include (a) the difficulties government agencies have in divesting and exiting from sponsors' programs to redistribute critical resources, (b) the impact and relationship between NSWC's culture and values and the strategic planning process, and (c) the integration and coupling of organizational support functions with the technical sectors/SBUs that lead to effective planning processes and strategic management. NSWC could use academia to investigate these issues. The potential exists for NSWC to have the kind of impact on government

agencies that General Electric's<sup>42</sup> strategic planning had on industry.

In summarizing how NSWC met the challenges of pioneering corporate-style strategic planning at an R&D center, we will examine (a) NSWC's progress, (b) the intangible benefits, rewards, and leadership, (c) the strategic planning staff's function, and (d) some areas of opportunity for future NSWC strategic planning growth.

## 9.2 An Overview Of Progress

For executives, general managers, and planning participants the institutionalization of strategic planning implies (a) a general understanding of the level and kinds of issues which the methodology and process can address, (b) a decision-making process for handling new problems and for dealing with old ones more effectively through careful deployment of resources between competing demands, (c) contributions from a larger portion of management because of their involvement in strategic thinking, strategic objectives and strategy development, and the coupling of strategic activities to tactical execution, and (d) an understanding of the strategic options available to the agency which reflect

organizational activities and the outside environment. NSWC made the transition from the long-range (five year) linear extrapolation planning of the "today" programs to strategic management based on a composite long-range strategic posture which looked at ten through twenty year future time frames that coupled with tactical three to five year action plans. The items listed above have been put into place successfully and are being practiced. Figure 34 summarizes the key areas and elements associated with this transition over the three planning cycles.

One way to ascertain the effect on the Center of the institutionalization of the strategic planning process is to re-examine the 1982 BOD concerns and initial planning objectives in light of the results of the planning process.

SENIOR EXECUTIVE CONCERNS	BETTER OFF/WORSE OFF
reactive rather than proactive to market opportunities	BETTER
anticipate programs early & get in early in life cycle	BETTER
making the case for acquiring facilities	BETTER
understanding future impacts of current long-term program commitments	MUCH BETTER

resource deployment for best  
future benefit

BETTER

influence in shaping the  
Centers future

MUCH BETTER

#### INITIAL OBJECTIVES

#### ACHIEVED/NOT ACHIEVED

Develop strategic planning  
system and processes to  
facilitate generation of  
Center plans, their  
implementation, and provide  
for review and control

ACHIEVED-system and  
processes for  
strategic  
and tactical plan  
generation and  
implementation

NOT ACHIEVED-processes  
for review and  
control;  
total resource  
allocation  
for strategic  
management

Produce Center strategic  
plan delineating future  
product mix, objectives  
and strategies for  
reaching these objectives

ACHIEVED-Cycles II  
& III along with  
prioritization and  
limited resource  
allocation

NOT ACHIEVED-total  
divestiture of some  
programs for optimal  
deployment of  
resources

Build planning culture  
using participative  
planning & decision methods  
to improve organizational  
performance

ACHIEVED planning  
institutionalized;  
line managers to  
considered  
better off with  
than without;  
future direction  
set with priorities,  
strategy, and plans.

AREA/ELEMENT	CYCLE I	CYCLE II	CYCLE III
IMPLICIT ASSUMPTIONS	SOME AUTONOMY WOULD BE RELINQUISHED FOR CORPORATE GOOD EXECUTIVE & MGMT COOPERATION & AGREEMENT IS POSSIBLE ABILITY & DISCIPLINE TO IMPLEMENT RESULTS EXISTS RESULTS WOULD IMPROVE NSWC's PERFORMANCE STRATEGIC ISSUES COULD BE IDENTIFIED & MANAGED		
EXPLICIT ASSUMPTIONS	ZERO SUM GAME CENTER WORKFORCE MAXIMUM OF 5000 BALANCED CENTER WORK REQUIRED TO MAINTAIN R&D CHARACTER		
VISION	PHILOSOPHY & VALUES ONLY	BASIC (ORAL ONLY) TECH & MGMT GUIDANCE	CORPORATE VISION
ANALYSIS LEVELS	SECTOR/SBU/PL	SECTOR/SBU/SSU/PL	CORPORATE/SECTOR/SU
STRATEGY LEVELS	SECTOR/SBU	SECTOR/GRU/SSU	CORPORATE/SECTOR/SU
PLANS	LIMITED	STRATEGIC/SU	STRATEGIC/TACTICAL
EVAL & CONTROL PROCESSES	NONE	NONE IMPLEMENTED DELEGATED	NONE IMPLEMENTED DELEGATED
HRM & REWARD SYSTEM	WEAK	WEAK	WEAK
RESOURCE ALLOCATION	NOT TOTAL WORK-YEARS ONLY	NOT TOTAL WORK-YEARS ONLY	NOT TOTAL WORK-YEARS ONLY
STRATEGIC MGMT PRACTICE	INFANCY	NOVICE PHASE	ADVANCED BEGINNER PHASE

**FIGURE 34. NSWC CORPORATE-STYLE DETAILED STRATEGIC PLANNING SUMMARY**

AREVEMENT	CYCLE I	CYCLE II	CYCLE III
METHODOLOGY & PROCESS	STRATEGIC PLANNING EDUCATION  PORTFOLIO PLANNING FOCUS  SECTOR/SBU/SSU DEFINITION  NON CONGRUENCY BTW PLANNING STRUCTURE/ LINE ORGANIZATION  DELPHI & NGT WORKSHOPS (CTR/DEPT) PARTICIPATIVE MGMT	STRATEGIC PLANNING SECTOR/SBU/SSU LEVEL  RECOGNIZED NEED FOR STRATEGIC PLANNING INFO/DATA BASE  DELPHI/NGT WORKSHOPS (CTR/DEPT) PARTICIPATIVE MGMT	STRATEGIC PLANNING SECTOR/SBU MGRS  TACTICAL PLANNING LINE/PROG MGRS  IMPROVED INFO/DATA BASE  WORKSHOP PARTICIPATIVE MGMT REDUCED PAPERWORK
		SECTOR/SBU/SSU RESPONSIBILITY & AUTHORITY DRIVEN REALIGNMENT & REDEFINITION  LIMITED MOVEMENT/CREATION ORGANIZATIONAL ENTITIES NOT 100% CONGRUENCY BTW PLANNING & LINE ORG	
TANGIBLE & INTANGIBLE RESULTS	STRATEGIC PLANNING EDUCATION  THRUST/KEY ISSUE IDENTIFICATION  WORK SEGMENTATION  PROTECTION SYSTEMS DEPARTMENT ESTB. & SYNERGY	STRATEGIC PLANNING PROCESS & PLAN  DEFINED TECH & MGMT THRUSTS/CHALLENGES  DECISION-MAKING BASED ON STRATEGIC PLAN  CORP MGMT & PROGRAM GUIDANCE	FUTURE VISION/POSTURE & STRATEGIC OPTIONS  STRATEGIC & TACTICAL PLANS  STRATEGIC THINKING/ DECISION-MAKING  COMPETING RESOURCE DEMAND ALLOCATION PROCESS
	COMMON LANGUAGE FOR COMMUNICATIONS- MORE LONG-RANGE/STRATEGIC THINKING FRAME WORK FOR ARTICULATING THE BUSINESS- CORPORATE VIEW FORCING FUNCTION UNDERSTANDING CORP FIT OF TECH WORK- APPRECIATION SUPPORT SERVICE WORK & COSTS VISION OF WHO WE ARE & WHERE WE WANT TO GO BOTH INTERNALLY/EXTERNALLY CENTER DIALOGUE, UNDERSTANDING, INTERNALIZATION OF GOALS, OBJECTIVES, STRATEGIES NSWC RECOGNIZED AS FORWARD PLANNER WITH CORE SKILL-FIRM SPECIFIC ADVANTAGE		

**FIGURE 34. (CONT.)**

AREA/ELEMENT	CYCLE I	CYCLE II	CYCLE III
COST          ISSUES & OPPORTUNITIES	PSYCHOLOGICAL AND EMOTIONAL CONFLICT/AMBIGUITY/FRUSTRATION FROM NEW PROCESS/PROCEDURES AND CULTURAL/ORGANIZATIONAL CHANGE  SIGNIFICANT EXECUTIVE & MANAGER TIME & ENERGY DEMAND  FEW EMPLOYEES LOST WHO COULDN'T RECONCILE WITH THEIR PERSONAL STYLE  REDUCED ENTREPRENEURIAL FLAIR & FREEDOM BECAUSE CYCLES I & II STRATEGIC PLANNING FOCUSED ON LOW SBU/SSU LEVELS & CREATED FEELING EVERYTHING BEING MANAGED TO LOWEST LEVEL (NOT ACTUALLY PROVEN BUT SIGNIFICANT CONCERN BECAUSE ENTREPRENEURIAL SPIRIT SO VALUED BY NSWG)		
	COUPLING OF EVALUATION & CONTROL PROCESSES TO STRATEGIC/TACTICAL PLANS NOT ACHIEVED/ CURRENT METHOD OF DELEGATION TO LINE MANAGERS MAY REDUCE EFFECTIVENESS OF STRATEGIC MANAGEMENT  SES/MGR PMRS OBJECTIVES NOT UNIFORMLY COUPLED TO STRATEGIC/TACTICAL PLANS & LINE SPECIFIC PERFORMANCE EXPECTATIONS ARE DETERMINED DEPENDING ON DEPARTMENT/DIVISION HEAD VIEW OF THE PLANNING PROCESS (NO GUIDELINES OR POLICY EXISTS)  STRENGTHENING OF SUPPORT SERVICES SECTORS & SSUs: COUPLING TO SBU/SSU PLANS DEVELOPMENT FOR STRATEGIC/TACTICAL PLANNING & PRACTICE OF STRATEGIC MGMT COULD BE IMPROVED (PLOWING NEW GROUND/NO EXAMPLES TO FOLLOW)  TRANSITION TO STRATEGIC MANAGEMENT NOT DEALT WITH EFFECTIVELY; FOR STRATEGIC MGMT PURPOSES NEITHER TOTAL RESOURCE ALLOCATION NOR TOTAL RESOURCE PRIORITIZATION BASED ON DEVELOPED PLAN HAS BEEN ACHIEVED  POWERFUL LEADERSHIP/EMPLOYEE MOTIVATIONAL OPPORTUNITIES & BENEFITS OF USING THE VISION/FUTURE POSTURE/STRATEGIES REMAIN UNTAPPED (WRITTEN GRAY RESEARCHING STYLE & JOHNSON & JOHNSON CREDO DO LEVERS FOR SIMULTANEITY AND CORPORATE GLUE; SEE REFERENCES 76 & 77)		

FIGURE 34. (CONT.)

AREA/ELEMENT	CYCLE I	CYCLE II	CYCLE III
<p>FUTURE CONSIDERATIONS</p>	<p>THE JURY IS STILL OUT ON THE LONG TERM SURVIVAL OF NSWC'S CORPORATE STYLE PLANNING; THERE IS A CERTAIN FRAGILITY ASSOCIATED WITH THE EFFORT BECAUSE OF THE REQUIREMENT FOR CIVILIAN/MILITARY LEADERSHIP PROCESS CHAMPIONS &amp; WHOLEHEARTED SUPPORT OF THE SENIOR EXECUTIVES; A CHALLENGE FACING NSWC IS TO MAINTAIN THE STRATEGIC PLANNING MOMENTUM.</p> <p>THE REDUCTION OF THE CORPORATED STYLE STRATEGIC PLANNING STAFF TO A SINGLE INDIVIDUAL COULD SEND THE WRONG MESSAGE REGARDING THE VALUE/IMPORTANCE PLACED ON NSWC'S STRATEGIC/TACTICAL PLANNING EFFORT &amp; JEOPARDIZE FUTURE CYCLES.</p> <p>BY NOT FOLLOWING A HAXMAJULUF TYPE METHODOLOGY MORE CLOSELY THE EFFECTS OF THE INTEGRATIVE PROCESS ARE NOT ACHIEVED AND CYCLE EMPHASIS IS NOT ON ALL THE PROCESSES REQUIRED TO ACHIEVE MANAGEMENT EVALUATION &amp; CONTROL. THE HAXMAJULUF PROCESS STEPS SHOULD BE RE-EXAMINED FOR APPLICABILITY (FOR EXAMPLE THE CYCLE ONE FOCUS ON STRATEGIC AT THE SECTOR LEVEL &amp; BELOW MITIGATED THE UNDERSTANDING OF THE IMPORTANCE OF THE CORPORATE VISION, COUPLING OF STRATEGIC &amp; TACTICAL PLANNING, &amp; NEED FOR MGMT EVALUATION &amp; CONTROL).</p> <p>NSWC'S CORPORATE-STYLE STRATEGIC PLANNING HAS NOT DEGENERATED TO A MECHANISTIC PROCESS OR PROCEDURE; NSWC'S MUST BE VIGILANT TO STRATEGIC PLANNING BECOMING BOILER PLATE FOR THE OLD STYLE LONG-RANGE PLANNING.</p> <p>THE LACK OF CLEAR UNDERSTANDING AND APPRECIATION FOR THE ACHIEVED NSWC CORPORATE STYLE STRATEGIC PLANNING BENEFITS &amp; REWARDS BY EXECUTIVES, MANAGERS, &amp; EMPLOYEES NEGATES POTENTIAL SYNERGISTIC EFFECTS OF ITS INSTITUTIONALIZATION</p>		

FIGURE 34. (CONT.)

It is important to have an understanding of and appreciation for the tangible and intangible benefits of the corporate-style strategic planning as accrued by NSW. Involvement by managers in the intense day-to-day operations of an organization can cause a loss of perspective on these benefits and their value. Figure 34 summarizes some of the tangible and intangible benefits NSW received from the planning process. Specific interview data also provides insight into managers' perspectives on the intangible benefits and rewards of strategic planning and the significance of the leadership role.

### 9.3 Intangible Benefits/Rewards and Leadership

The institutionalizing of strategic planning is easy to say but hard to do. It takes a long time (five years or more) and enormous amounts of discussion and training. Most importantly, it means that each executive, manager, scientist, and engineer must do things that he or she may not want to do. One of the pivotal initial NSW policy decisions was that line executives and managers would develop the plans and that staff would facilitate the process. These executives and managers were very frank during the interviews. Specific examples of particular

strategic planning problems were discussed. Despite problems interviewees thought they were better off now with NSWC's corporate-style strategic planning than they had been before its introduction. Some people said that the cultural change [in the NSWC method of doing business] and going through the process for the first time [i.e., generating the initial data, information packages, strategies, options, and plans] had been painful. Most would have stopped if given the opportunity. However, there were many expressions in interviews of intangible benefits and rewards that had overcome or compensated for the costs. Some of these expressions follow.

- a. "In the competitive arena the Center is unique among the Navy R&D Centers in being able to use the strategic plan to articulate positions and decision rational; it sets us apart from competitors for obtaining resources and it works."
- b. "Provides a common language to talk to each other and stimulates discussion which should have been taking place but was not."
- c. "Forced us to think long-range/strategically and identify near-term resource requirements to achieve our long-range goals."
- d. "Provided an articulate framework for conducting business, raised the level of attention of management issues, helped define and plan the solutions."
- e. "Provided forcing functions for taking and coordinating a more corporate view."
- f. "Provided a focused thought process and better understanding of each department's work and its corporate fit."

- g. "Provided an appreciation of the support service departments and the costs of their services."
- h. "Helped fine tune the corporate resources, tie them to where we want to go, and cut out the marginal efforts to redeploy resources."
- i. "Enabled a better tying of fiscal planning to where the Center is going and an ability to explain it."
- j. "Provided the leadership for a vision of who we are and where we want to go both internally and externally."
- k. "Main value was the dialogue, discipline, common understanding, and internalization of goals, objectives, and strategies."
- l. "It's a good thing to know where we're going, why, and how we will get there; it's unique."
- m. "The strategic planning results have been successfully used to support headquarter's resource requests and to reclaim and restore cuts for critically needed resources."
- n. "The plan has been used to provide an understandable rationale to NSWC's major sponsors for why unlimited resources were not available to apply to their programs."

The similarity between this list and the benefits from the literature listed on pages 51 and 52 is not surprising. What is surprising is the difficulty managers have, as they worry about day-to-day problems, in visualizing the importance and the value of strategic planning relative to operational concerns. I believe this continually strong tug between 'today type pressures' and organizational costs [psychological, emotional, time,

energy, and financial] was a significant factor in the length of time required to institutionalize strategic planning at NSW. This problem is compounded by the high up-front commitment of time and energy needed before seeing major short-term change. It was because of forces like these that strong and continued leadership in the form of 'process championship' was absolutely essential.

Figure 35 shows the changes in both the senior civilian (TD) and military (CO) leadership during this eight year period. There were four commanding officers and three technical directors. Any one of these individuals, had their management ideas differed from those associated with strategic planning, could have stopped or changed the process. It is interesting that the original ethos which convinced top management that strategic planning offered a thoughtful process that would allow NSW to have some influence on shaping its destiny persisted for the eight years. Department heads had complete autonomy and were held directly accountable for their own departments.

Centralization of power and authority for corporate resource allocation was antithetical to NSW managerial thinking. Managers took more of a departmental view than

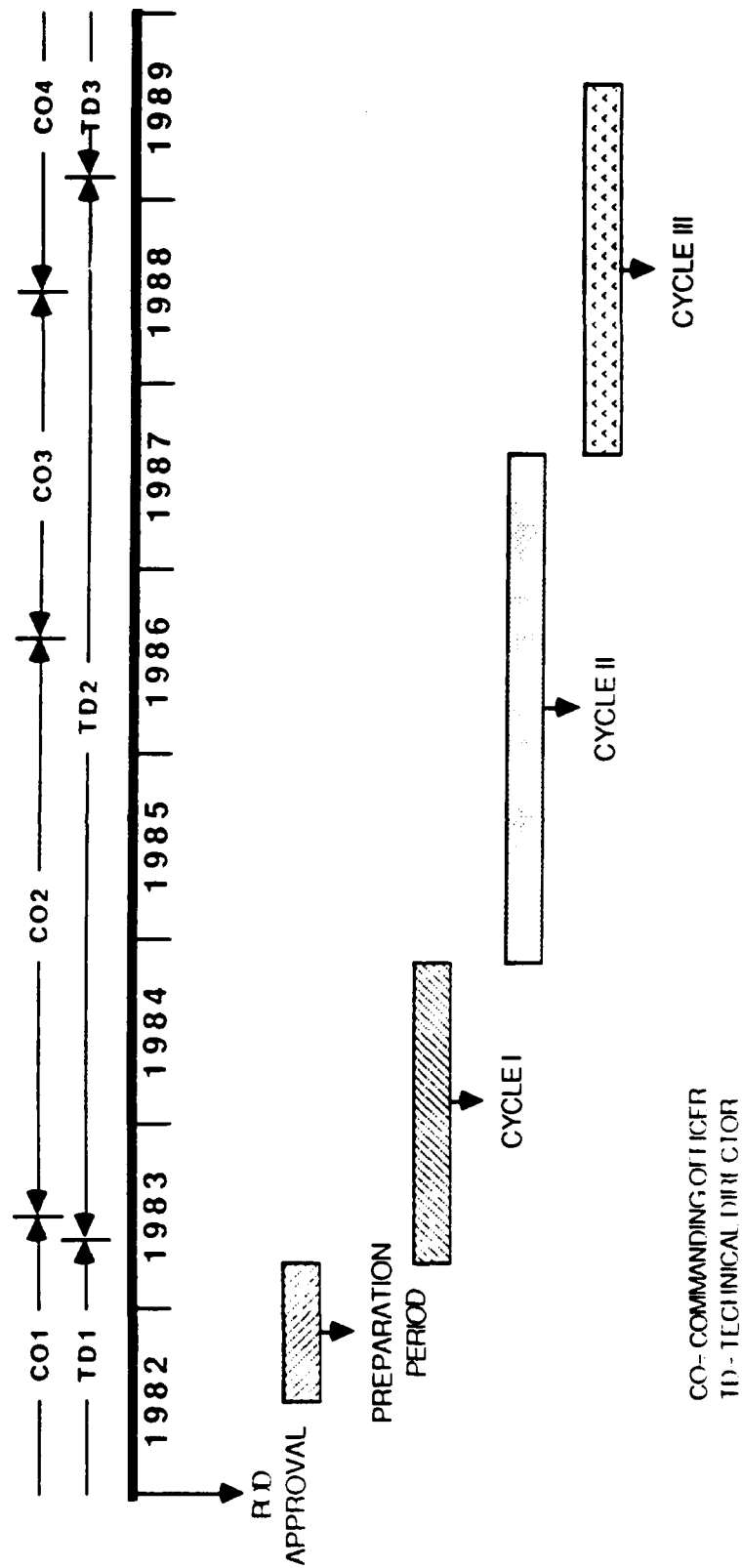


FIGURE 35. NSW CO/TO TENURE & THE TOP LEVEL STRATEGIC PLANNING PERIODS

one that considered corporate resource interests. At the beginning of this process the Board of Directors was not strong enough corporately to be the 'process champion.' One of the implicit assumptions in developing the strategic planning process was that department and division heads would give up some of their autonomy for the corporate good. BOD members recognized that good corporate level management systems had to be put in place. In 1982 the corporate philosophy [see Appendix C] stated: "The following principles will serve as the basis for Center management: ...Management will operate the Center corporately by utilizing those practices that permit individuals and the organizational units of the Center to attain the Center's goals..... The Center is one corporate entity. All organizational units are equally important and necessary to achieve mission success." Recall that NSWC executives were working in a 'zero-sum resource game' [win/lose]; naturally they did not want to let the department resources decline or to give up resources to another group for the good of the corporation. This problem occurs in industrial firms as well. One of the CEO's functions is to provide the leadership necessary for board members to take a corporate view of the firm rather than to be arguing always for the particular interests of the specific division for which they are held directly accountable. At NSWC the COs and TDs believed in and

fostered the institutionalization of the strategic planning process for the entire eight-year period. They took a strong positive role through personal commitment of their time and direct support. I believe it was this leadership and CO/TD championing which resulted in the progress achieved. These executives were a key factor in the success of the process. An additional benefit of institutionalization was the achieving of a BOD body that thought and worked together more corporately. The interactive methodology through the process of information generation and presentation actually made it easier for department heads to harmonize conflicting objectives between their departments and the Center.

The COs and TDs worked closely with the strategic planning staff. The development, implementation, and institutionalization of the process was delegated to a small staff. Because the planning staff was another key factor in the success of this process its functions are discussed briefly below.

#### 9.4 The Strategic Planning Staff

The strategic planning staff's function was one of guiding and shepherding the Center through the process of

development and institutionalization. They accomplished this by (a) knowing what was going on in the external strategic planning environment [i.e., what worked, what didn't work, and why], (b) understanding and knowing the internal culture of NSW, and (c) knowing the best way to make the process work internally given the NSW culture and value system [i.e., how far and how fast to push]. The work of the staff included (a) developing materials and educating the Center, (b) collecting data and assembling the Center data packages, (c) developing formats and answering questions, and (d) analyzing and effectively presenting difficult material. Starting the education process was a mammoth task that included defining terminology, preparing training materials, orchestrating workshops, and teaching. Because of the NSW policy that 'line managers would prepare the plans,' the planning staff had to be an enabling group that served as catalyst and facilitator in getting people to think. Staff members had to be competent and understand both the language of the organization and the language of strategic planning. NSW staff clearly understood their role. Results were facilitated because of the fact that staff members had been line managers and had a significant appreciation for line management problems. The complexity of the staff function should not be underestimated by agencies undertaking strategic planning. If it is, an

organization jeopardizes its entire effort right from the beginning. At least one person on the staff must have strategic planning expertise and be a process-orientated individual.

One could hypothesize that the institutionalization process would have proceeded faster if more emphasis had been placed by staff on transitioning from strategic planning to tactical planning in Cycle I. This may have been the case and here I stress may have been. Cycles I and II focussed on the strategic planning aspects of the process [see Figures 18 and 22]. According to the Hax/Majluf methodology, tactical planning is coupled to strategic planning. I believe that the staff understood the coupling requirements, but they could not move the organization to achieve coupling at a faster rate. Perhaps the staff should have spent more time establishing the evaluation and control processes in all cycles. But staff can only establish processes if the Board of Directors is ready and willing to accept them. Evaluation and control functions belonged to the BOD and to CO/TD senior executives. The staff had no delegated authority to execute; they had only that which was implied by Command's direction to them. Therefore, they had to rely on Command's legitimization of their power and responsibility. The complexities of these human resource

issues coupled with NSWC's cultural values makes it difficult to imagine that the time of the process overall could have been significantly reduced in length. Let us not forget the cultural shock experienced in Cycles I and II from multiple changes. These changes were in (a) the mode of business operation, and (b) the introduction of corporate-style strategic planning. Additionally, during Cycle II the strategic planning staff was reduced from two technical persons and a secretary to a single individual. The two technical individuals rotated back to positions in technical departments. Even with the strategic planning institutionalization process well under way, this move could have jeopardized the strategic planning effort; it could have sent a negative message to executives and managers regarding the importance of strategic planning. NSWC did not have a formal plan for rotating individuals from departments to the strategic planning staff. However, they did recognize the value for transferring knowledge of rotating members from line departments to the planning staff. It is interesting that the support departments who have had the most difficulty getting integrated into the strategic planning process have never rotated a senior individual to the strategic planning staff. It could prove beneficial for them to do this to complete the cycle.

The unit with strategic planning responsibility must be given freedom to develop the process in an entrepreneurial fashion and yet be strongly supported by the CO and TD in their roles of process champions.

#### 9.5 Areas of Opportunity for Development

Within the Navy it is recognized and accepted that NSWC has done a good job with its strategic planning. Additional opportunities and challenges for innovation, work force improvement, and leadership exist. Management at NSWC exercises leadership in the execution of complex organizational activities. Decisions to accept challenges and proceed in areas of opportunity are not 'black and white.' They require careful consideration and the same courage and fortitude that was demonstrated in 1982. NSWC must consider the following questions and issues in developing strategic planning and management in the future:

- a. Should NSWC move toward the coupling of strategic and tactical planning management evaluation and control processes with the current methodology implementation?
- b. Is it desirable to practice strategic management with total resource prioritization and

allocation of resources based on developed strategic and tactical plans?

- c. Could the communication and explanation of NSWSC's vision, future posture, and strategies to employees provide leadership and motivational synergism for NSWSC?
- d. Would coupling executive and line manager performance expectations and rewards to Senior Executive Service (SES), and Performance Management and Recognition System (PMRS) objectives to strategic/tactical plans foster strategic management and strategic/tactical accountability?
- e. Could strengthening the support department and SBU integration into the strategic/tactical planning processes and strategic management of the Center enhance productivity?
- f. Could a careful examination of the Hax/Majluf integrative methodology (12 steps) and its applicability to NSWSC future cycles improve the process results?
- g. Would communicating to employees a clear understanding of the tangible and intangible benefits and rewards achieved by all NSWSC's people during the 1982 to 1989 strategic planning institutionalization effort reinforce their personal commitment to making it successful?
- h. Does the responsibility and authority delegated to SBU managers require clearer delineation for long-term success?

**What NSWSC has achieved cannot be overemphasized.**

**NSWSC has achieved success in the process itself and has helped key decision makers to think and act strategically. NSWSC has not let its strategic planning degenerate into a mechanistic process nor has it allowed the process to run**

the management. The organization's leadership must continually resist allowing strategic planning to become 'boiler plate' or to atrophy into the old style, long-range linear extrapolation planning. Few organizations reach the level of maturity and experience with corporate-style strategic planning that NSWC now has and which permits it to leverage its strength while counterbalancing its limitations in the wise deployment of resources and the shaping of future directions.

#### 9.6 Concluding Thoughts

NSWC is faced with powerful forces and trends which could change the character and values of this R&D center. It recognizes and understands the implications of those forces. It now knows what its strategic issues and options are as a result of its corporate-style strategic planning process.

The primary challenge to the Naval Surface Warfare Center is to incorporate successfully the 1997 R&D Center Model and its vision of success. NSWC and Navy R&D centers must recognize the immensity and scope of the forces working to prevent their achieving a future 'vision of success.' Those who plan and manage strategically will

be able to carry out the necessary organizational changes and will probably survive and prosper into the 21st century. Those who fail to understand the need for strategic planning and management or who are inept in their ability to deal with it are likely to be doomed to a perpetual reactive strategy. Hardening of the arteries will set in. Only farsighted federal managers will be able to inject new vitality, keep the flame alive, and meet challenges and unprecedented opportunities head-on. Organizations led by this kind of manager will be the signposts of the future.<sup>78,79</sup>

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## APPENDIX A

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Surface Weapons Center

A How To Do It Guide For Managers"

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for  
**NAVAL SURFACE WEAPONS CENTER**

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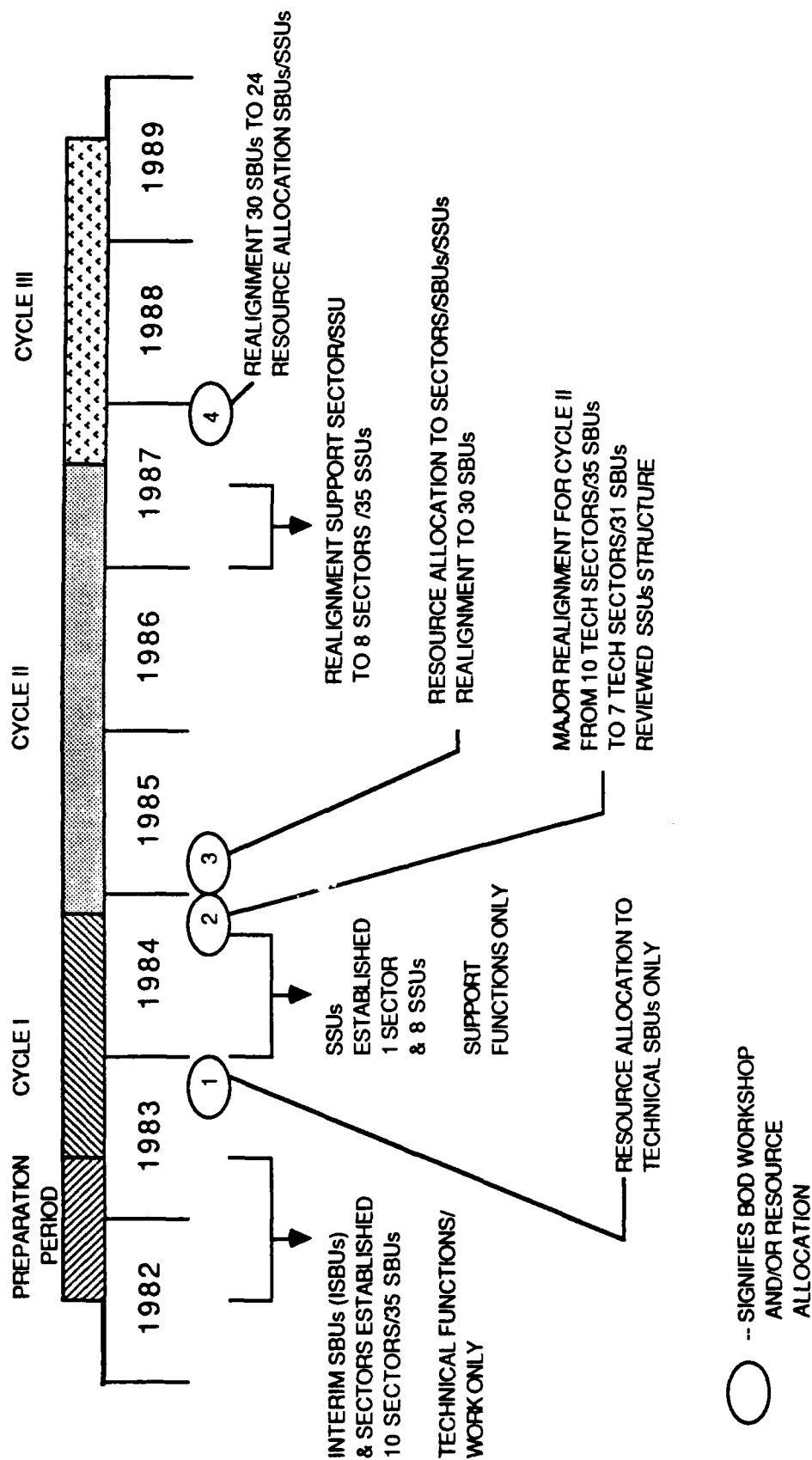
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APPENDIX B  
NSWC Sectors, SBUs, and SSUs  
for  
Cycles I, II, & III



**FIGURE B-1. SEGMENTATION INTO SBUs, SSUs, AND SECTORS BY MAJOR EVENTS**

## CYCLE I SECTORS & SBUs\*

10 Sectors & 35 SBUs

1. Protection
  - Nuclear and Electromagnetic Effects
  - Survivability
  - Chemical/Biological Warfare
  - Safety
  - Magnetic Silencing
  - Shipboard Nuclear Weapons Security
2. Strategic Weapons Systems
  - SLBM
  - Space and Geodesy
3. Mine Weapon Systems
  - Mines
4. ASW Weapon Systems
  - ASW Weapon Systems
  - Torpedo Defense System
  - Underwater Search and Track
  - Swimmer Weapons
5. Technology
  - Sensors
  - Directed Energy Weapon Systems
  - Energetic Materials
  - Materials Technology
  - Robotics
  - Information and Systems Science
  - Electrochemistry
  - Tactical Weapon Systems Technology
6. AAW Weapon Systems
  - Local Defense Missile Weapon Systems
  - Area Defense Missile Weapon System
  - Wide Area Defense Missile Weapon System
  - AEGIS MK 7
  - Surface/Air Search and Track
7. MR/SR ASUW/Fire Support Weapon Systems
  - Naval Gun and Missile Weapons Systems
  - Ground/Vehicle Weapon Systems

- 8. LR/ASUW Strike Weapon Systems
  - Cruise Missile Weapon Systems
- 9. Combat Systems
  - Intraforce Coordination
  - C2/Command Support
  - Surface Warfare Analysis
  - CSE/I
  - CSL
- 10. EW Systems
  - EW Systems

\*Note: No support or SSU Units

TECHNICAL SECTOR/SBU  
REALIGNMENT FROM CYCLE I FOR INPUT TO CYCLE II PLANNING

Old 10 Sectors/35 SBUs

1. Protection
  - Nuclear and Electromagnetic Effects
  - Survivability
  - Chemical/Biological Warfare
  - Safety
  - Magnetic Silencing
  - Shipboard Nuclear Weapons Security
2. Strategic Weapons Systems
  - SLBM
  - Space and Geodesy
3. Mine Weapon Systems
  - Mines
4. ASW Weapon Systems
  - ASW Weapon Systems
  - Torpedo Defense System
  - Underwater Search and Track
  - Swimmer Weapons
5. Technology
  - Sensors
  - Directed Energy Weapon Systems
  - Energetic Materials
  - Materials Technology
  - Robotics
  - Information and Systems Science
  - Electrochemistry
  - Tactical Weapon Systems Technology

New 7 Sectors/31 SBUs

1. Protection  
(No Change)
2. Strategic Weapons Systems  
(No Change)
3. Underwater Systems
  - Mine Warfare
  - Surface Ship ASW CSE
  - Underwater Warheads
  - Acoustic Search and Track
  - SEAL Weapon Systems
4. Technology  
(Same, less Tactical Weapon Systems Technology)

4. AAW Weapon Systems
  - Local Defense Missile Weapon Systems
  - Area Defense Missile Weapon System
  - Wide Area Defense Missile weapon System
  - AEGIS MK7
  - Surface/Air Search and Track
5. Surface Launched Weapons Systems
  - Missile Weapon Systems
  - Gun Weapon Systems
  - Tactical Weapon Systems Technology
  - Marine Corps Weaponry
7. MR/SR ASUW/Fire Support Weapon Systems
  - Naval Gun and Missile Weapons Systems
  - Ground/Vehicle Weapon Systems
8. LR/ASUW Strike Weapon Systems
  - Cruise Missile Weapon Systems
9. Combat Systems
  - Intraforce Coordination
  - C<sup>2</sup>/Command Support
  - Surface Warfare Analysis
  - CSE/I
  - CSL
6. Combat Systems
  - AEGIS Program Support
  - AEGIS MK 7
  - Command and Control Systems
  - Combat Systems Engineering
  - Cruise Missile Control Systems
10. EW Systems
  - EW Systems
7. Electromagnetic Combat
  - EW Systems
  - Surface/Air Search and Track

**SUPPORT SECTOR AND SSUs  
FOR INPUT TO CYCLE II PLANNING**

**1 SECTOR AND 8 SSUs**

**SUPPORT SECTOR**

- PERSONNEL
- FINANCE
- PROCUREMENT
- PLANT DEVELOPMENT AND MAINTENANCE
- ADMIN AND INFO SERVICES
- COMPUTER AND INFORMATION SYSTEMS
- PLANNING AND EVALUATION
- ENGINEERING AND INFORMATION SERVICES

TECHNICAL SECTOR AND SBU<sub>s</sub> AT OUTPUT  
OF CYCLE II AND USED AS INPUT FOR CYCLE III

7 SECTORS AND 30 SBU<sub>s</sub>

UNDERWATER WEAPONS SYSTEMS\*

MINE WARFARE  
SEAL WEAPON SYSTEM  
UNDERWATER WARHEADS  
SURFACE ASW SYSTEMS

STRATEGIC WEAPON SYSTEMS

SLBM  
SPACE AND GEODESY

SURFACE-LAUNCHED WEAPONS SYSTEMS

MISSILE WEAPON SYSTEMS  
GUN WEAPON SYSTEMS  
TACTICAL WEAPONS SYSTEMS TECHNOLOGY  
MARINE CORPS WEAPONRY

ELECTROMAGNETIC COMBAT

ELECTRONIC WARFARE SYSTEMS  
SURFACE/AIR SEARCH AND TRACK

COMBAT SYSTEMS

AEGIS PROGRAM SUPPORT  
AEGIS MK 7  
COMMAND AND CONTROL SYSTEMS  
COMBAT SYSTEMS ENGINEERING  
CRUISE MISSILE CONTROL SYSTEM

PROTECTION

NUCLEAR AND EM EFFECTS  
SHIPBOARD NUCLEAR WEAPONS SECURITY  
CHEMICAL/BIOLOGICAL WARFARE  
SAFETY  
MAGNETIC SILENCING  
SURVIVABILITY

TECHNOLOGY

SENSORS  
DIRECTED ENERGY SYSTEMS  
ENERGETIC MATERIALS  
MATERIALS TECHNOLOGY  
ROBOTICS  
INFORMATION AND SYSTEMS SCIENCE  
ELECTROCHEMISTRY

\*Realignment of Acoustic Search and Track

**CYCLE III TECHNICAL SECTORS  
AND STRATEGIC BUSINESS UNITS\***

**7 SECTORS AND 24 SBUs**

**UNDERWATER WEAPONS SYSTEMS**

MINE WARFARE  
SEAL WEAPON SYSTEM  
UNDERWATER WARHEADS  
SURFACE ASW SYSTEMS

**STRATEGIC WEAPON SYSTEMS**

SLBM  
SPACE AND GEODESY

**SURFACE-LAUNCHED WEAPONS SYSTEMS**

MISSILE WEAPON SYSTEMS  
GUN AND DIRECTED ENERGY  
WEAPON SYSTEMS  
MARINE CORPS WEAPONRY

**ELECTROMAGNETIC COMBAT**

ELECTRONIC WARFARE SYSTEMS  
SURFACE/AIR SEARCH AND TRACK

**COMBAT SYSTEMS**

AEGIS  
WARFARE SYSTEMS ARCHITECTURE AND ENGINEERING  
CRUISE MISSILE CONTROL SYSTEM  
COMBAT SYSTEMS ENGINEERING  
COMBAT SYSTEMS TECHNOLOGY

**PROTECTION**

SAFETY/SECURITY/ENVIRONMENTS  
NUCLEAR AND EM EFFECTS  
SURVIVABILITY

**TECHNOLOGY**

SENSORS  
DIRECTED ENERGY SYSTEMS  
ENERGETIC MATERIALS  
MATERIALS TECHNOLOGY  
ELECTROCHEMISTRY

**\*Realignment during Cycle III to 24 SBUs**

**CYCLE III SUPPORT SECTORS AND STRATEGIC SUPPORT UNITS\***

**8 SECTORS AND 35 SSUs**

**PERSONNEL**

ORGANIZATION AND HUMAN RESOURCE DEVELOPMENT  
WORKFORCE RELATIONS, PERFORMANCE, RECOGNITION AND  
SERVICES  
HUMAN RESOURCES ACQUISITION AND MANAGEMENT  
HUMAN RESOURCE INFORMATION

**FINANCE**

SYSTEMS  
ANALYSIS  
OPERATIONS

**PROCUREMENT**

PROCUREMENT  
SUPPLY OPERATIONS  
FOOD SERVICES

**PLANT DEVELOPMENT AND MAINTENANCE**

FACILITIES DEVELOPMENT, PLANNING AND MANAGEMENT  
FACILITIES, MAINTENANCE, CONTROL AND PLANNING  
MAINTENANCE AND REPAIR OF STRUCTURES, UTILITIES,  
ROADS AND GROUNDS  
TRANSPORTATION AND RELATED SERVICES  
HOUSING  
FACILITIES ENGINEERING AND DESIGN  
CONTRACT SERVICES AND INSPECTIONS  
ENVIRONMENTAL COMPLIANCE

**ADMINISTRATION AND INFORMATION SERVICES**

AIR OPERATIONS  
SECURITY  
ADMINISTRATIVE SERVICES  
SAFETY AND OCCUPATIONAL HEALTH  
RECREATIONAL SERVICES

**COMPUTER AND INFORMATION SYSTEMS**

SCIENTIFIC COMPUTING SYSTEMS  
BUSINESS INFORMATION SYSTEMS  
OFFICE AUTOMATION SYSTEMS  
TELECOMMUNICATIONS  
ADP POLICY

**CORPORATE PLANNING, ANALYSIS AND EVALUATION**

SURFACE WARFARE ASSESSMENT  
CENTER PLANNING AND INFORMATION  
CORPORATE REGULATORY

ENGINEERING AND INFORMATION SERVICES  
DESIGN AND MANUFACTURING  
TECHNICAL INFORMATION AND AUDIO VISUAL  
PRODUCT ASSURANCE  
COST CONTROL

\*CHANGED TO 8 SECTORS AND 35 SSUs

APPENDIX C

NSWC Corporate Philosophy Cycle I - 1983

## NSWC CORPORATE PHILOSOPHY

The Naval Surface Weapons Center is a primary research and development activity responsible to the Chief of Naval Material for both its operation and its results. The Center mission is to be the Navy's principal RDT&E activity for surface weapons systems, ordnance, mines and strategic systems support. The conduct of Center operations will be governed by the following Corporate Philosophy.

### Role and Program

The Center develops, jointly with the Systems Commands, positive technical programs for weapons systems acquisition support that meet the needs of the Fleet and Marine Corps, and provides for:

- A technical program balance appropriate for a full-spectrum R&D Center, which contributes to all phases of the Navy Weapon systems acquisition and maintenance process, by:
  1. Creating a technology base program in support of Navy weapon and combat systems and providing leadership in relevant technical developments;
  2. Providing technical capability to sponsoring organizations in the design, development, manufacture, evaluation and procurement of new systems; and
  3. Being responsive to the Fleet in a responsible manner, and ensuring that Fleet concerns are addressed in new developments.
- Close technical liaison and cooperation with industry, educational institutions, DOD development activities, and other Navy RDT&E activities to ensure full technical support is available for Navy system development and Fleet support.

## Product Quality

The quality of Center products is of paramount importance. This commitment to technical quality and excellence will be maintained by:

- Setting exemplary professional standards for all Center products, and zealously guarding the technical integrity and prestige of the Center.
- Establishing internal disclosure and review processes that require orderly and objective technical evaluation of Center products.
- Establishing and maintaining a superior technical capability that can be focused to provide independent and objective in-depth technical advice on Navy systems at all phases of the system acquisition process.

## Staffing

The Center's most important resource is its military civilian team. A fundamental assumption is that their personnel of the Center are honest and loyal, and have a strong personal commitment to contribute with individual excellence to the total Center product. They will be treated with dignity, equality and respect. Staffing policies include:

- A complementary military and civilian team with appropriate responsibility, authority, and accountability.
- The fostering of high ethical standards in employees.
- Opportunities to meet employee expectations commensurate with individual career development goals and the employee contribution toward mission accomplishment.
- Merit recognition and reward opportunities directed toward employees who want:
  1. To understand how their work relates to Center goals;
  2. A strong voice in what they do; and
  3. To be accountable for their performance.

- The Center staff, both military and civilian, is part of the Naval establishment, and an environment of equal opportunity for advancement and recognition irrespective of race, creed, color, sex, handicap, age, or national origin is provided. All hands are proud to be part of the Naval Surface Weapons Center and the Navy.

## Management

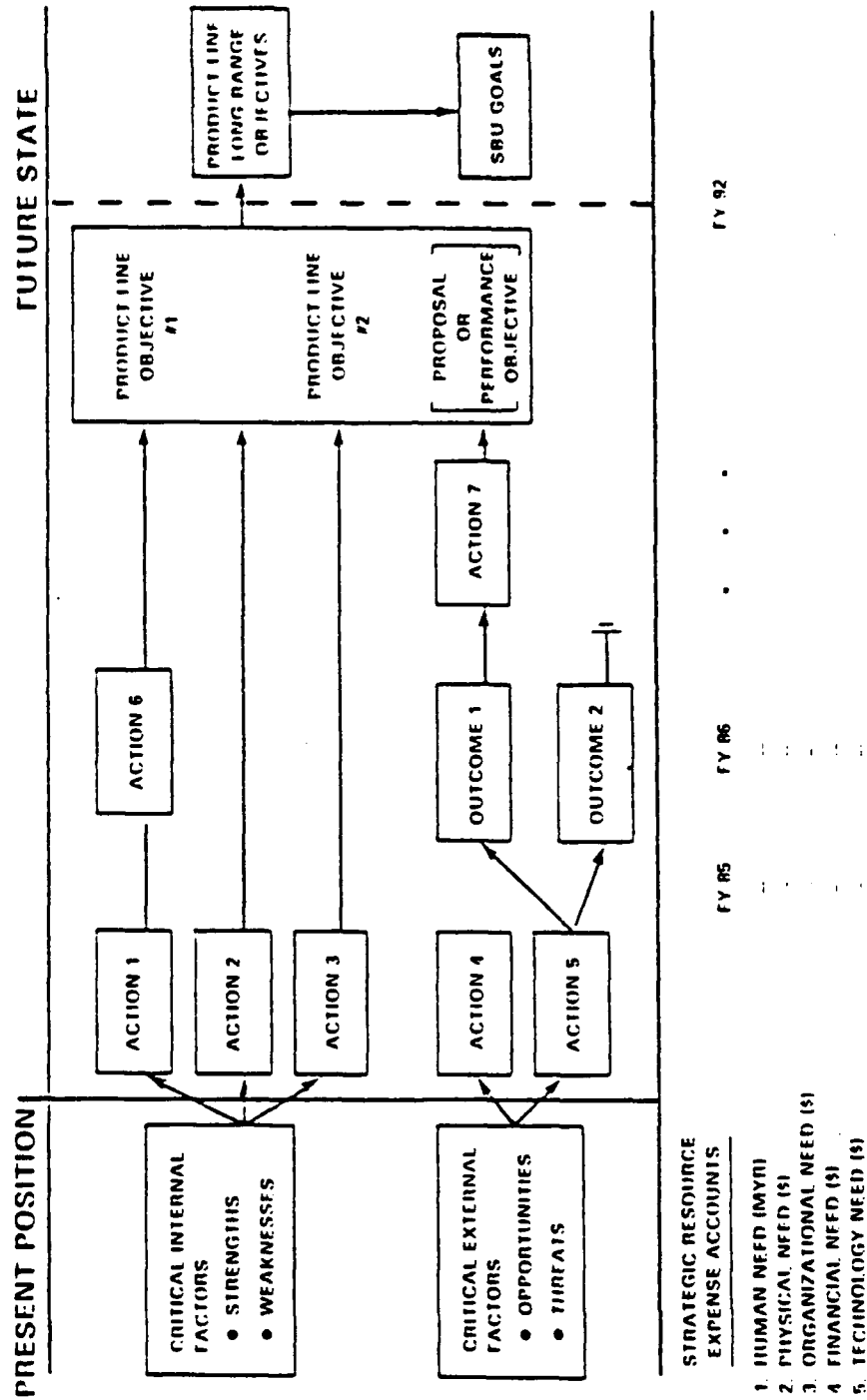
Within the Center, the following principles will serve as the basis for Center management:

- Management will provide an organization that ensures the Center can respond to its mission requirements by controlling its assets in a responsible and accountable manner.
- Management will operate the Center corporately by utilizing those practices that permit individuals and the organizational units of the Center to attain the Center's goals.
- Management will delegate technical and management responsibility and accountability to the lowest appropriate level and provide commensurate authority to ensure proper execution.
- The Center is one corporate entity. All organizational units are equally important and necessary to achieve mission success.
- The management team is dedicated to the highest standards of efficiency, effectiveness, and productivity in Center operations.
- Management will establish and maintain policies and procedures that are responsive to Navy needs, Center roles, and with an appropriate balance between technical programs and management support.
- The Center will be a good neighbor. This is especially true in its dealings with the communities in which it is sited.

APPENDIX D

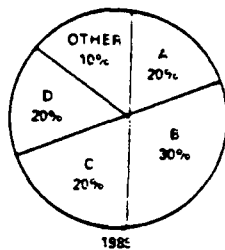
Cycle II Product Line Broad Action Plan Diagram  
and  
Sector Summary Plan Format

# ILLUSTRATIVE PRODUCT LINE BROAD ACTION PLAN DIAGRAM

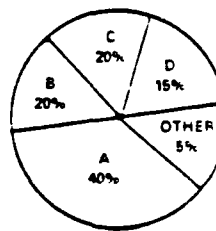


GRAPHIC 6-1.  
SBU'SSU PRODUCT-LINE ESTIMATED RESOURCE DISTRIBUTION

TOTAL MANPOWER \_\_\_\_\_ SBU'SSU \_\_\_\_\_ TOTAL MANPOWER \_\_\_\_\_



1981



1992

NET CHANGE IN TOTAL RESOURCE \_\_\_\_\_

PRODUCT-LINES IN PRIORITY ORDER	TO MEET THESE NAVY NEEDS	TO MEET THESE CENTER OBJECTIVES	WITH THESE RISKS
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

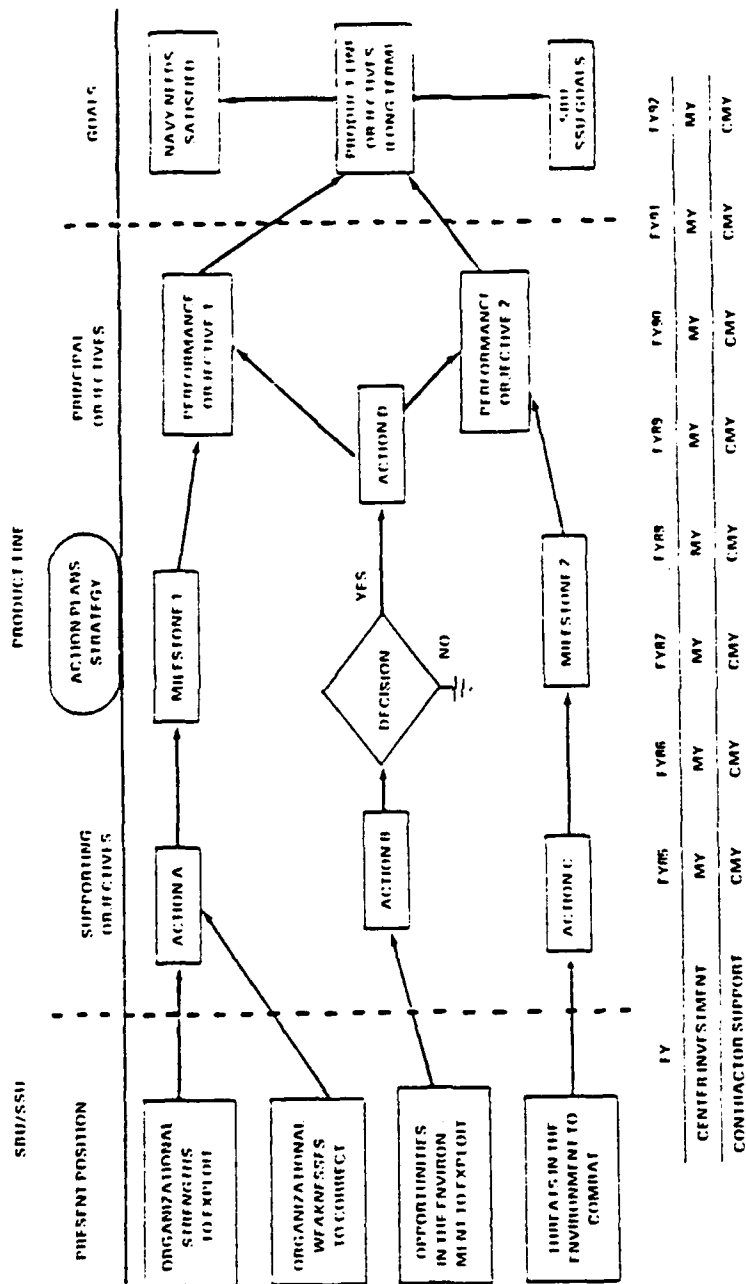
GRAPHIC 6-2  
PRODUCT-LINE REJECTS AND DIVESTITURES PLANNED

SBU SSU \_\_\_\_\_

PRODUCT-LINE OPTIONS OR OPPORTUNITIES REJECTED	REASONS

EXISTING BUSINESS TO BE PRUNED OR DIVESTED	TIME FRAME	RISKS AND/OR BENEFITS

GRAPHIC 6.3. PRODUCT LINE ACTION PLAN DIAGRAM



ASSESSMENT OF PRODUCT LINE RISK: 1  
2

APPENDIX E

Responsibilities Assigned by NSWC  
to  
Strategic Planning Participants

Responsibilities. A general description of all the key groups involved in the NSWCC planning process follows. Each Sector leader and his SBU/SSU managers must negotiate and reach a consensus on their working relationship during the planning cycle. In addition, the Sector leaders must agree on their roles, since Sectors may cross formal organizational boundaries. Sector Leader/Department Heads are responsible for the transition of strategic goals and objectives to department tactical plans.

- a. Commander (CO) and Technical Director (TD). The CO and TD are responsible for developing the NSWCC vision statement and strategic planning goals and objectives that, along with Sector identified thrusts, issues, opportunities, and constraints, provide the necessary guidance to SBU/SSU managers. They are also responsible for approving the BOD-recommended mix of SBU/SSU action plans. They issue a call for SBU/SSU detail programs and provide final approval to each program and its required resources. The CO and TD are not isolated from the mainstream of the planning process. Their technical inputs, ideas, and insights are added while participating as members of the BOD.
- b. Board of Directors (BOD). The BOD consists of the CO, TD, their senior staff, and the support and technical department heads at NSWCC. During each planning cycle, it is their responsibility to:
  1. Develop Center planning goals, objectives, guidance, and constraints
  2. Contribute to the vision of the Center and develop the Center strategic thrusts and planning challenges
  3. Review and approve SBU/SSU mission statements, approve SBU/SSU managers, and, as appropriate, group SBUs/SSUs into Sectors and appoint Sector leaders
  4. Review and refine Sector SBU/SSU action plans and resource requirements

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Source: NSWCCINST 3901.1 (draft planning process instruction)

5. Recommend final NSWC Sector/SBU/SSU strategy and resource allocations to the CO and TD for approval
6. Review the success/progress of the SBUs/SSUs

c. Sector Leaders/Department Heads. During the planning cycle, the Sector leaders assist the BOD in their responsibilities. During the planning cycle, each Sector Leader/Department Head is responsible for:

1. Identifying the organizational components in the SBUs/SSUs within his sector
2. Establishing the SBU/SSU planning groups
3. Developing the Sector view and strategic posture.
4. Developing the Sector view of Navy needs with product-line opportunities
5. Identifying, with all SBU/SSU managers in the Sector, the shared concerns between SBUs/SSUs and any issues associated with them
6. Negotiating, mediating, and resolving SBU/SSU dependencies and conflicts among SBU/SSU managers
7. Monitoring SBU/SSU planning to ensure consistency, quality, and schedules
8. Coordinating and consolidating individual SBU/SSU action plans into a Sector package
9. Presenting the Sector package proposal to the BOD
10. Strategic closure and tactical plan guidance
11. Tactical plan development and presentation

- d. SBU/SSU Managers. The SBU/SSU manager's responsibility is the basic assessment and development of the SBU/SSU strategic plan; this includes:
1. Identifying new and existing product-line opportunities for the SBU/SSU from the Navy needs identification at the Sector level
  2. Conducting a thorough product-line analysis for each identified opportunity
  3. Selecting and integrating product-line opportunities into cohesive SBU/SSU strategies
  4. Developing broad action plan for each product-line strategy
  5. Drafting the plan
  6. Revising and finalizing the SBU plan after reviews at the Sector and BOD levels, including all resources
- e. SBU/SSU Manager's Staff. The SBU/SSU manager's staff will assist in the strategic planning effort (e.g., Navy needs analysis, product-line analysis, product-line action planning, and plan documentation) and in the Sector/SBU/SSU tactical planning. Since most SBU/SSU managers are division leaders or senior program managers, their staff will consist of subordinate managers and program managers, who must carry out the plan, and technical experts and other stakeholders.
- f. Center Planning Staff. The Center Planning Staff is responsible for:
1. Providing procedures, methodologies, and decision-making techniques so that planning is accomplished effectively and efficiently
  2. Coordinating all planning activities including overall calendar and schedule, process, and publication of Center planning documents such as Management guidance, strategic plans, tactical plans and evaluation reports

3. Providing consulting support
4. Training people in the use of the planning procedures and methodologies
5. Facilitating strategic planning meetings
6. Perform follow-up progress evaluation and metrics trend analysis

g. Resource Boards. Four executive level resource boards exist at the Center. They are Human Resources Board; Finance and Business Systems Board; Facilities, Logistics, and Equipment Board; and Technical Board. Their responsibilities related to the planning cycle include:

1. Work strategic and tactical issues from a resource perspective
2. Make recommendations to the Center Executive Board (C, C1, C2, D, D1)

h. Warfare Analysis Staff. Responsibilities related to the planning cycle are:

1. Conduct Navy needs and priorities analysis at the Center level
2. Document and present needs and priorities analysis to Center managers

APPENDIX F  
NSWC'S Corporate Vision - 1987

## Introduction

The cornerstone of any examination of the future of the Center is the premise that the purpose of the Naval Surface Weapons Center--the basic reasons for our existence--will remain fundamentally unchanged.

We exist to enable the Navy to make well-informed technical judgements in obtaining the material resources needed to carry out National objectives, and to help determine what these needs are. In other words, we exist to help the Navy get what it needs, not just what it wants--and to be able and willing to explain the difference.

Our principal value lies in our being an integral part of the Naval family, and therefore motivated to serve the best interests of the Naval Service and the Nation--as we understand them. This understanding of the Navy's interests and needs is strengthened by our continued direct contribution to material development and acquisition, across the full spectrum of RDT&E from basic research to fleet support, through which we build and replenish our knowledge and experience base.

We play a critical role in the process by which the Nation arms itself; this demands that our technical judgements be sound, supported by the best available scientific and engineering capabilities, and that we have the professional integrity to challenge the positions of others when such challenge is warranted by the results of our work--even if that means taking unpopular positions.

We must build on today's strengths to create the Center of tomorrow. One of these strengths--a very major strength--is that broad range of talents we have developed in a diverse set of technical disciplines, which has enabled us to respond effectively to a wide variety of Navy problems and opportunities. But if allowed to grow unchecked, such diversity can also dilute our effectiveness, and we must not allow this to happen. We want to hold the Center at approximately its current employment level, and we want to limit the extent to which we contract out technical responsibilities. These two bounds will help shape the Center of the future.

## A Vision for the Future

NSWC will retain its broad-based mission in surface ship weapons systems, ordnance, mines, and strategic systems. We see the Navy being successful in its initiative to require, acquire, build, and operate its systems in a warfare system based framework. We will technically lead and move with the Surface Navy, our principal customer, to embrace this philosophy.

We see, therefore, that our work balance in the future will be more heavily oriented towards systems and components which directly support Surface Warfare, viz, the prosecution of anti-air, anti-submarine, anti-surface, strike and electronic warfare from surface ship(s). This includes the use of space systems. We see a continuation of a healthy balance between systems work and components work, with a modest movement towards complex systems from components. We believe that we cannot continue successful growth in the systems arena without the foundation remaining solid in the component arena. We also see that our experience and accomplishments in complex surface ship weapons systems and combat systems will serve us well in achieving a strong role in system engineering the Battle Force.

We see a stable work force level in the future. These shifts in Center work balance will, therefore, necessarily come at the expense of the other elements of our current work. The impact of these changes will be mitigated in direct proportion to our success in two areas: (1) gains in efficiency of operations through an aggressive automation initiative in tactical and support systems software development and in our business systems, and (2) substantial, but controlled, contracting in selected areas. We do not envision our work balance shift to be of such a magnitude as to endanger the integrity or the quality of our work in the other elements of our mission.

We see a continued technically strong base in the mines and strategic systems elements of our mission. Furthermore, we envision sustaining most of the technological disciplines, which span combinations of surface, air, submarine, and amphibious warfare for which we have the Navy's most capable people and facilities, most notably the ordnance element of our mission.

To summarize, we will be a full spectrum (technology base through life cycle support) R&D Center with a mission consistent with our four current basic elements. Through our aggressive pursuit of more surface warfare oriented work, we intend to be widely recognized as the Navy's

laboratory for Surface Warfare, in the same manner as we have achieved that recognition for excellence in ordnance, mines, and strategic systems.

### Some General Guidance

Our primary current responsibility is to meet our commitments to our sponsors. This does not necessarily mean that we will continue to be associated with today's sponsors indefinitely. In some cases, we may best serve the long-term interests of the Navy by promoting the transition of mature programs from NSWC to other activities better suited to carry out the latter phases of life cycle support responsibilities. Where that capability does not already exist elsewhere, we have a duty to help build it.

We are committed to a more deliberate and explicit application of stated Navy needs and priorities to our own program planning, and to the assessment of the relative worth of our programs in meeting the Navy's projected needs. At the same time, we will work to assure that opportunities which we have recognized but which have not been incorporated into Navy plans and budgets are made known to senior Navy planners.

Just as the individual elements of a ship's combat system must be integrated to operate effectively together, so too should our individual technical efforts be integrated whenever those efforts have an impact on one another. We must build effective information links throughout the Center to keep managers, supervisors, and working level groups informed of one another's progress, and use this information to strengthen the interoperability of the products which will ultimately be delivered to the Fleet. Additionally, since many of the tasks are too broad for a single Center, we must build effective working links with our sister Centers.

Working within and supporting SPAWAR's Warfare Systems Architecture and Engineering concept for developing alternative approaches to meeting the Navy's warfighting requirements, we will focus greater attention on the needs of surface combatants. In particular, we will address multi-mission, multi-warfare areas where we can best contribute to the advancement and integration of the surface combatant's overall capabilities.

In pursuing these new directions, we will adopt the practice of assessing our own progress throughout the Center. At all levels, our plans must include meaningful

goals. The development of goals which are measurable is a challenge for each level of management. Equally challenging is the need to understand and demonstrate the relationships between goals at different organizational levels. We must meet both of these challenges.

We will continue to value and foster the close working relationships that exist between Center staff members and individual sponsoring offices. It is equally important that our senior managers take a more active and personal role in dealing directly with appropriate senior levels in the SYSCOMS and in OPNAV.

We must continually recognize that our ability to contribute to the Navy rests largely on the current experience of our scientific and engineering workforce, which in turn is maintained through their direct, hands-on conduct of RDT&E. While there may be legitimate reasons for using our technical talents to direct or monitor the work of others, rather than doing the work ourselves, we must resist the external and internal pressures to contract out technical responsibilities.

We will also invest in our own future by helping to develop tomorrow's leaders through varied work assignments, flexible and innovative personnel policies, encouragement of risk-taking, and the willingness to learn from our failures.

Finally, we will manage the public resources which have been entrusted to us efficiently, recognizing that while efficiency in an R & D organization is important it is not paramount. Effectiveness is.

#### A Few Specifics

In addition to established Navy needs and priorities, we consider the following surface warfare needs to be of high value to NSWC and the Navy as new starts or increased emphasis:

- Performance of Technical Agent roles in Warfare Systems Architecture and Engineering; development of Surface Warfare ownership/BG/BF threat picture; improvement of detection, identification, and battle damage assessment due to increased battle space; development of battle management aids/tactical decision aids; integration of Electronic Warfare within existing combat systems and autonomous Battle Force operations; blending of strategic and space systems to upgrade surface warfare capability;

building, accessing, and using a test and integration range on the sea for surface warfare systems across warfare areas.

While Navy budget needs will continue to be met, we must manage internally to produce quality technical and support products within changing constraints imposed by this external environment. We will accomplish our selected or assigned work within the environment factors and constraints of about 5,000 full-time employee and up to about 500 other category employees; not more than fifty percent of our annual budget to be contracted, including RCP's; a Center work balance across the RDT&E spectrum, across Warfare areas in our Mission, and across hardware and software systems and components.

We will move toward technical departments direct/indirect work ratios of 85/15, and a Center technical/support work ratio of 65/35 (Center direct workyears/all other Center workyears).

With our aging plant we must renew our efforts to effectively control, operate and maintain our existing facilities, upgrade as needed, discontinue if appropriate, and aggressively obtain new facilities when required. Additionally we must manage our host/tenant relationships, with recognition of considerable increased military presence.

#### What Now?

With this picture of the "future NSWC" and these general guidelines in mind, we need to move forward. By setting goals, and making plans to meet these goals, we will assure our continued role in helping to build a stronger and more capable Navy.

Our Department Heads now have the key responsibility for this planning. Working within their own organizations, they will examine the options they have for contributing to the Navy's future needs. Working together as a part of the Center's corporate management, they will help identify which of these options are most appropriate for the Center and determine our major future directions and strategies. This will provide the basis for additional guidance and direction to the Center's managers and supervisors in developing more specific, shorter term plans.

Planning is a management responsibility, but our ability to carry out our plans is vitally dependent on the caliber and quality of our overall workforce. In a recent speech

the CNO stated that people--flesh and blood--not systems, win wars. In our planning effort it is people who can make it happen, not planning documents.

APPENDIX G

The Fundamental Elements  
of  
Strategic Management

IMPRINTING THE VISION OF THE FIRM THROUGH FORMAL ANALYTICAL  
& POWER BEHAVIORAL APPROACHES TO MANAGEMENT

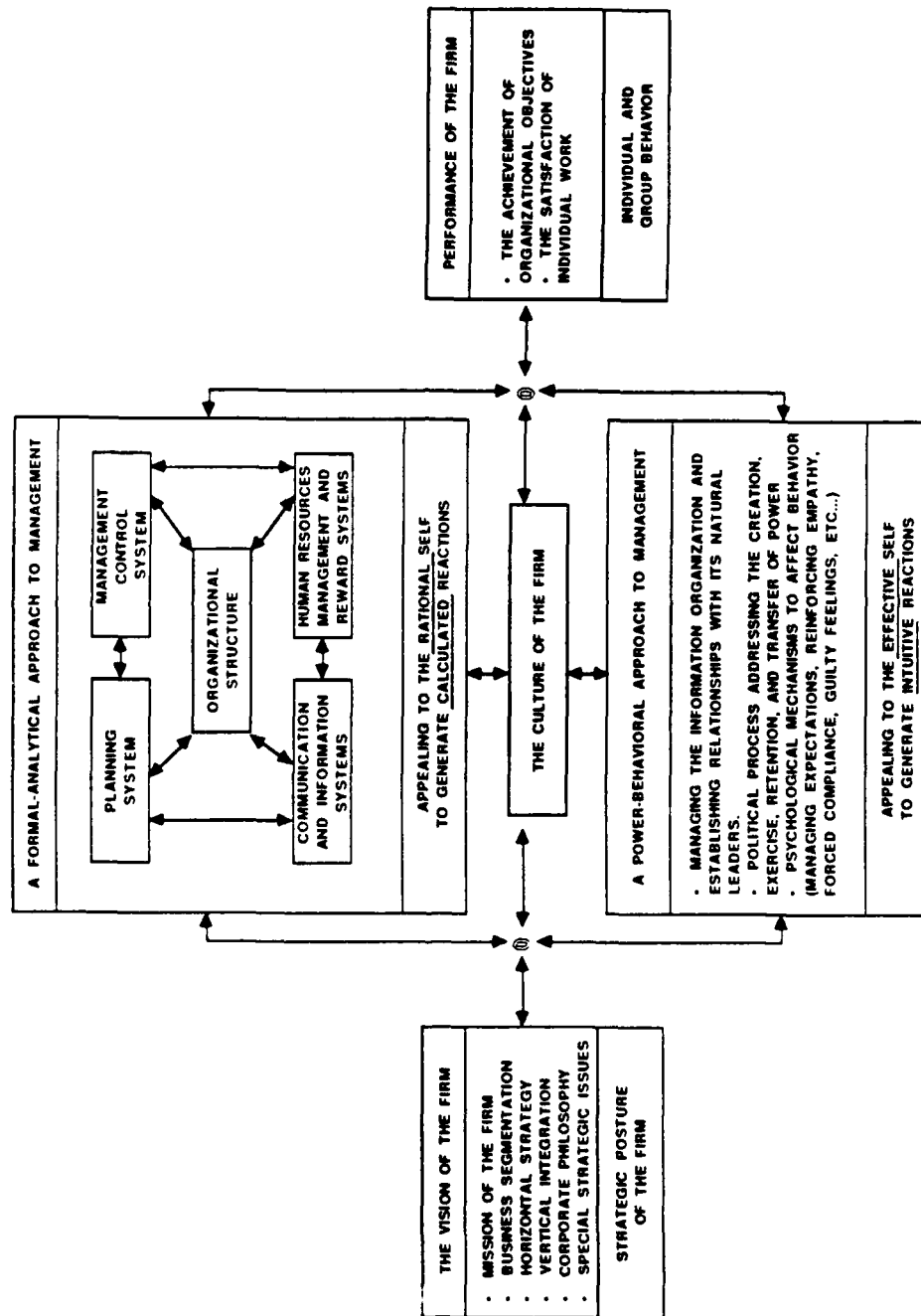


FIGURE G-1. THE FUNDAMENTAL ELEMENTS OF STRATEGIC MANAGEMENT  
(SOURCE: HAX LECTURE NOTES SPRING 1989)

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